



**Missouri Department of Natural Resources
Missouri Geological Survey
Land Reclamation Program**

Attachment I

Consideration of and responses to public comments received regarding The Family Ranch Reclamation Project, consisting of a total of 70 Acres, permit revision application to remove the permit condition of “No Use of Explosives” and to extend the time period of the mining operation to May 1, 2034, open pit limestone operation for Star Excavation, LLC, permit 1105, in Jackson County.

A public meeting was held on March 28, 2018.

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Introduction

On January 30, 2018, Star Excavation, LLC, submitted to the Missouri Department of Natural Resources, Missouri Geological Survey's, Land Reclamation Program a permit revision application to remove the permit condition of "No Use of Explosives" and to extend the time period of the mining operation to May 1, 2034. The application was deemed complete on January 30, 2018, which required the company to begin the public notification process. Public notices were published on February 9, 16, 23, and March 2, of 2018, in *The Lee's Summit Journal*. Certified mail was sent to the City of Lee's Summit, as well as the first tier of landowners within a half mile adjacent to the mine plan boundary. Not all certified mail was mailed on the same day. During the public notice comment period, twenty-one (21) people wrote in letters or sent electronic mail were received requesting a public meeting or providing comments to the director of the department's Land Reclamation Program. Land Reclamation Program also communicated with the Missouri Department of Transportation regarding any concerns regarding The Family Ranch Project located adjacent to Interstate 470. Star Excavation, LLC held an informal public meeting on March 28, 2018 starting at 7:00 p.m. at Legacy Touch, 801 NW Commerce Drive in Lee's Summit, Missouri. One-hundred and ten (110) people signed in at the public meeting.

Background

This permit revision application is to remove the condition of "No Use of Explosives" and to extend the time period of the mining operation to May 1, 2034. The site is located in Jackson County, Section 35, Township 48 North, Range 32 West. This site was initially permitted by The Family Ranch, LLC and has been permitted since May 2, 2014. A unique aspect of this mine site is that it is an underground mine that will be surfaced mined by removing the overburden to expose the roof of the underground mine. Roof exposure allows the company to remove the pillars that support the roof and collapses the roof to the floor of the underground mine. No mining is planned for below grade of the underground mine floor. The underground mine network extends beyond the mine plan boundary.

During the initial permitting process in 2013 and 2014, The Family Ranch, LLC went out on public notice. A public meeting was held on February 6, 2014. During the public meeting on February 6, 2014, there was a commitment made by Mr. Phillip Short, owner of The Family Ranch, LLC to not use explosives along with other provisions to minimize impacts on tricolored bats.

There was discovery prior to the February 6, 2014 public meeting that the underground mine network is home to about 800 tricolored bats, which was at that time the third largest colony of tricolored bats in the state of Missouri. Tricolored bats are not considered an endangered species as of April 26, 2018; however, in response to a scientific petition from the Center for Biological Diversity and Defenders of Wildlife, the U.S. Fish and Wildlife Service announced on December

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17, 2017, tricolored bats may warrant federal protection under the Endangered Species Act. The tricolored bat's decline is due primarily to the deadly disease known as white-nose syndrome, which has killed millions of hibernating bats across the United States and Canada.

On May 16, 2016, The Family Ranch LLC, requested a name change to Star Excavations, LLC. After further inquiry concerning the correct company name on April 2, 2018, the company name is Star Excavation, LLC as registered with the Missouri Secretary of State. Star Excavation, LLC is not extending the mine plan boundary with this application, where mining can affect land. See [Figure 1](#) below illustrating the property boundary (red line), mine plan boundary (blue line) consisting of about 70-acres and the 28-acre permitted boundary (green line) area for The Family Ranch Reclamation Project. The Long Term Mine Plan Boundary is set in fifty feet from the property line. Figure 1 further illustrates where one acre was added for what is currently bonded at 29-acres.

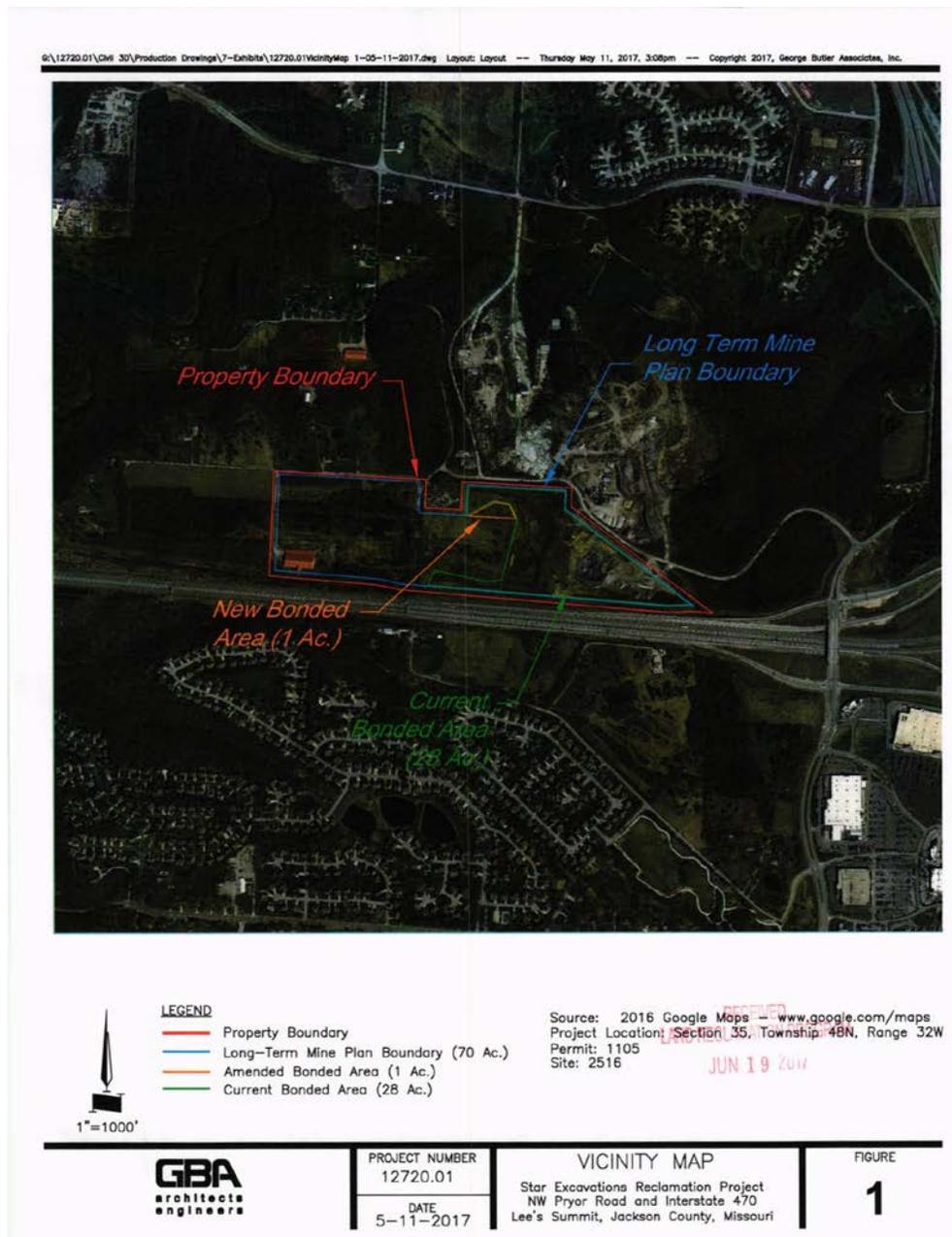


Figure 1: The Family Ranch Reclamation Project: property boundary, long term mine plan area, and bonded area Jackson County, Section 35, Township 48 North Range 32 West.

Opening Remarks at Meeting

Christine Bushyhead, legal counsel and moderator of the meeting for Star Excavation, LLC, started the meeting with a brief opening statement welcoming everyone to the public meeting for what hopefully provides additional information for what is proposed at this mine site. It is the applicants' responsibility to provide additional information in this forum. If people in the audience have questions, there is a speaker card for people to fill out. There was discussion about the format of the meeting and that some people may have attended the public meeting held about four years ago, when the company received the original permit. Figure 2 below is a map

that was presented during the meeting orienting people who live nearby with the location of the quarry.

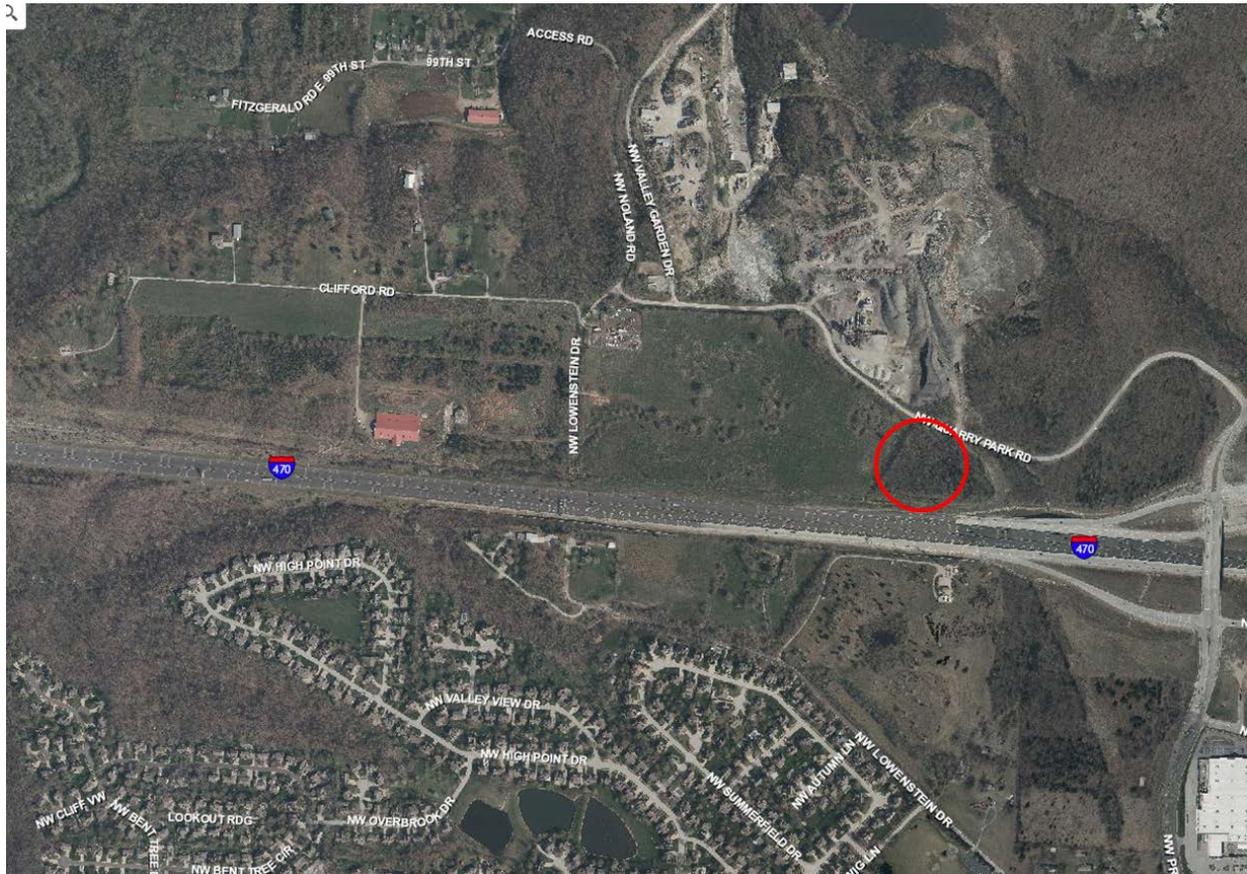


Figure 2. Map illustrating the general location of the quarry and surrounding neighborhoods.

The red circle area of Figure 2, illustrates where the majority of the active mining is now taking place.

An introduction of people consisted of Flip Short, owner of Star Excavation, Steven Clancy, Operations Manager at the mine site, Justin Beaver with Lutrell Blasting Enterprises, Inc., who is involved with the explosives Star Excavation plans to use. Four (4) representatives from the department were present: Larry Lehman, Director of Land Reclamation Program; Bill Zeaman, Unit Chief, and Mariah Morrison, Environmental Specialist with Land Reclamation Program's Industrial and Metallic Minerals Mining Unit; and James Helgason, Environmental Manager of Air and Land Section from the department's Kansas City Regional Office.

There were also two representatives from the State Fire Marshall's Office, Scott Stoneberger, Regional Chief Investigator and Greg Carrell, Assistant State Fire Marshall.

The purpose of the informal meeting is to provide an opportunity for anybody to speak who has a direct personal interest in one or more of the factors that can be considered in regards for the

staff director to make a decision on this permit revision application. There were a number of people who already wrote in comments.

Speakers who wrote in during the comment period will be given first priority to speak. All others who elect to speak will follow the first priority speakers. Speakers have five minutes when representing themselves; other speakers representing a group will be provided fifteen minutes to speak. People will be asked to identify themselves when they get up to speak.

Thirty-five pieces of certified mail were sent announcing the request to remove the permit condition of “No Use of Explosives” and to extend the time period of the mining operation to May 1, 2034. Figure 3, below illustrates the first tier of landowners who are adjacent to the property that will be mined.

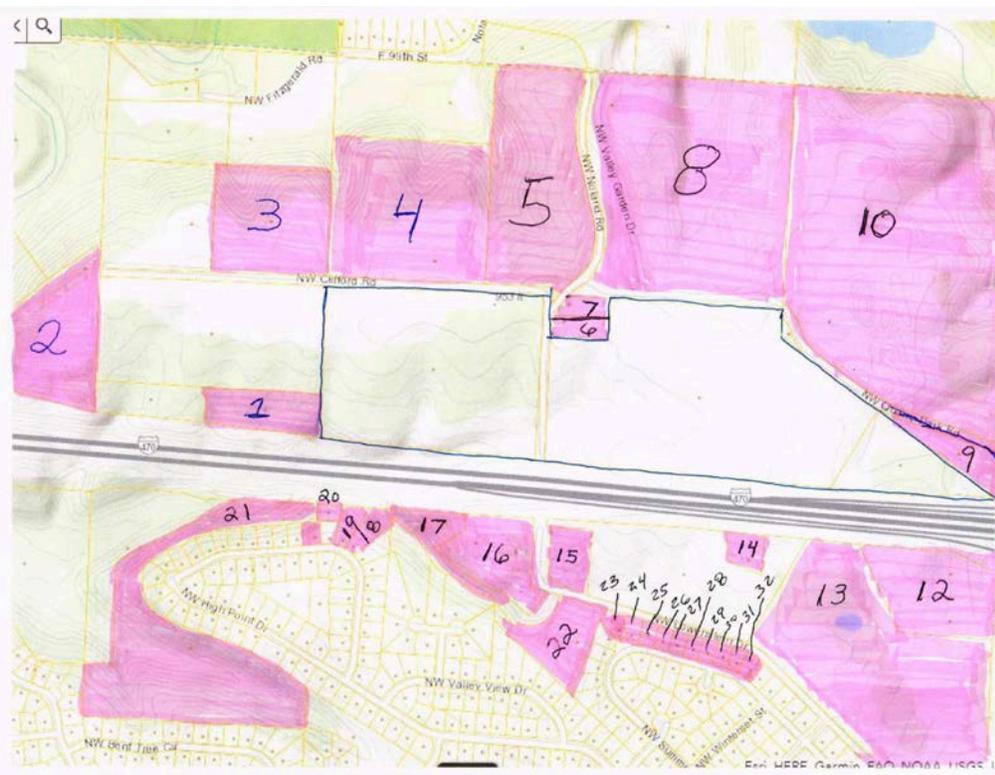


Figure 3, Map of adjacent landowners to the property that is considered for the permit revision.

Although the map count only goes to 32, two other landowners, between one (1) and two (2), and three (3) and two (2) were also sent certified mail along with the City of Lee’s Summit.

There were numerous concerns involving the interpretation of who should have received certified mail notification of the permit revision to remove the condition of “No Use of Explosives” and extending the mining operation time period to May 1, 2034. Public notification involving sending certified mail of a notice of intent to operate a surface mine process has changed since the initial application received in 2013. Certified mail public notification

requirements during the 2013 permit application involved sending certified mail to the city or county administrator and to landowners adjacent to the mine plan boundary.

Prior to August 28, 2014, there was an ambiguity some operators were using, which was to set the mine plan boundary a certain distance within the property boundary so the landowner of the mine site would be the only person considered to be adjacent to the mine plan boundary and hence was the only person who received notification via certified mail. In one instance an operator set the mine plan boundary six-feet inside the property line so the operator was not required to send a notice of intent to operate a surface mine to the adjacent landowners.

On August 28, 2014, the Missouri Revised Statutes at 444.772.10(1)(2) changed the certified mail portion of the public notification process. After the law change, the Land Reclamation Program did consult about the correct interpretation of certified mail public notification requirements. After consultation, effective on February 29, 2016, the regulations promulgated pursuant to the statutes were also changed at 10 CSR 40-10.020(2)(I) and read:

- “(I) At the time the application is deemed complete by the director, the applicant shall also mail letters containing a notice of intent to operate a surface mine.
1. The applicant shall send the letters containing a notice of intent to operate a surface mine by certified mail to—
 - A. The governing body of the counties or cities in which the proposed area is located; and
 - B. The last known addresses of all first tier record landowners whose property is—
 - (I) Within two thousand six hundred forty feet (2,640'), or one-half (1/2) mile from the border of the proposed mine plan area; and
 - (II) Adjacent to the proposed mine plan area, land upon which the mine plan area is located, or adjacent land having a legal relationship with either the applicant or the owner of the land upon which the mine plan area is located.”

The regulations at 10 CSR 40-10.020(I)1.B.(I) and (II) shall be read in whole. Referring back to Figure 3, the map is oriented to the north. The property that is being mined is outlined in a fine line, landowners six (6) and seven (7) have an inset of property in the north central portion of the property that is being mined. Immediately in the center portion on the west side of the fine line there is an open space. Flip Short owns that property and according to interpretation does not qualify as a person who will receive certified mail as Mr. Short is the applicant and also the owner of land upon which the mine plan area is located. The first tier landowners who live within a half-mile and are adjacent to the property of the proposed permit revision are the remaining landowners who are required to be sent certified mail.

The intent of the public notification process is to make people aware of an intent to operate a surface mine or in this case a substantial revision to the method of mining along with extending the date of the mining operation. On March 8, 2018, the Land Reclamation Program first learned of the date, time, and location of the public meeting. The Land Reclamation Program did receive notification on March 16, 2018 at 2:00 p.m. via e-mail:

“Also there about 1,000 property owners that are affected and want to be at the "Informal Meeting", is his office big enough?” Also on March 16, 2018, invitations to the public meeting were mailed by U S Postal Service by the Land Reclamation Program. Some e-mails announcing the meeting were sent earlier.

Considering that 1,000 property owners wanted to be at the public meeting, 110 people signed in at the public meeting by sending out 35 certified mail notices of an intent to revise the method of mining, the public notification process worked. Everyone who wanted to speak at the public meeting was awarded an opportunity to do so whether they wrote in a letter requesting a public meeting or not.

Both the 2013 and 2018 permit applications were required to be ran once a week for four consecutive weeks in the *Lee’s Summit Journal* a newspaper that has circulation in the county where the mine site is located in accordance with 493.050 Revised Statutes of Missouri. Bids for the City of Lee’s Summit, Missouri and all legal notices for the City of Lee’s Summit are also posted in the *Lee’s Summit Journal*.

Figure 4, is a map of the boundary of the underground mine illustrated in yellow, which was also presented at the public meeting.



URS	10075 El Monte, Suite 100	105	Project
	Overland Park, Kansas 66211	106	
	Tel: 913-544-1000	107	
	Fax: 913-544-0118	108	
		109	Doc
		110	1

Figure 4. Outline of the underground mine network.

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The underground mine was operated by Union Quarries from about 1961 to 1981. The Family Ranch Reclamation Project plans to surface mine the underground mine to the underground mine floor to build on the property. The area depicting the mine plan boundary is not stable to build on. There are some areas of the underground mine network that are more stable when compared to other areas. Figure 4 is oriented to the north. Mining started on the east side of Figure 4 and continued in a westerly direction and then tunnels were created under I-470. The early stages of underground mining were haphazard and without equal spacing between pillars along with inconsistencies concerning roof support. Later in the mining of the underground network, quality workmanship left adequate roof support and equal spacing between pillars. Figure 5 below, illustrates an undesirable underground mine to place structures on, which exists at The Family Ranch Reclamation Project and compares it to a more desirable situation to build structures on over an underground mine.

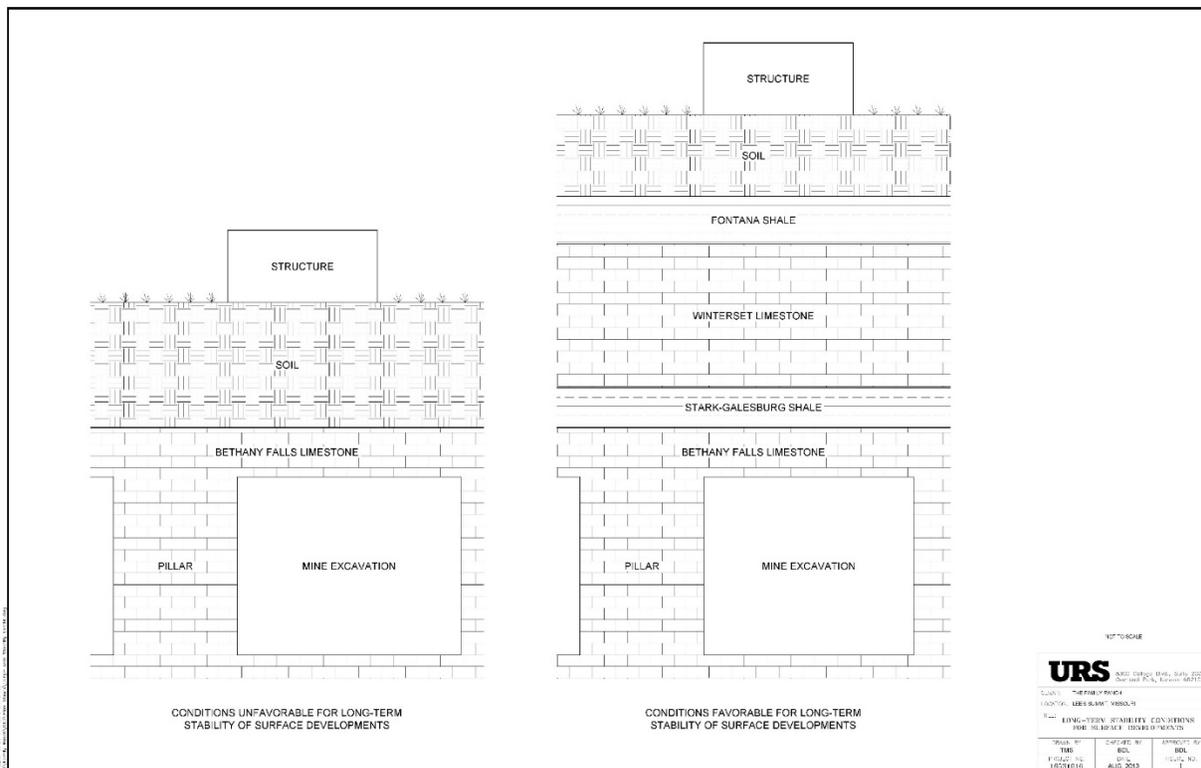


Figure 5. Unfavorable and favorable underground mining conditions for stability of surface development.

For the past almost four (4) years, surface mining operations have been conducted at the subject property. The City of Lee's Summit through the Special Use Permit allows hours of operation from 7:00 a.m. to 5:00 p.m. There was a concern of a perceived detonation at The Family Ranch Reclamation Project in early March 2018 at four o'clock in the morning that Star Excavation, LLC. contends did not occur.

There was a video presentation of detonations with high explosives and Autostem. There was no audio with the video presentation. Blasting is a controlled and regulated practice. During the video depicting an Autostem detonation there was what looked like a five-gallon bucket near the detonation and the bucket did not move. Blasting was conducted to help build nearby subdivision projects such as Winterset Park. Since 2016, three blasting permits were issued by the City of Lee's Summit. Blasting related complaints are best filed with the Missouri Division of Fire Safety, Office of the State Fire Marshall.

Autostem is a low explosive, defined by Alcohol Tobacco, Firearms and Explosives and Department of Transportation with an explosives shipping classification system number of 1.4s, as nothing more than a champagne popper or a shotgun shell. Autostem burns at much slower rate less than 300 feet per second compared to conventional high explosives, which burn at close to 10,000 feet per second. The ground vibration factor produced from an Autostem detonation is significantly less, in fact minimal to nonexistent. There is record of The Family Ranch Reclamation Project using Autostem from July, 2017 to October, 2017.

"Blasting" with high explosives at limestone mining operations is the industry standard. Almost every known rock project uses high explosives. A few exceptions are operators who produce dimensional stone. In 2006-2007, Clarkson Construction used blasting to remove limestone on a property directly across the street from The Family Ranch Reclamation Project to build the Pryor Road and I-470 interchange improvements in Lee's Summit.

There was no commitment from Star Excavation to use only Autostem at The Family Ranch Reclamation Project. It was explained that if Autostem does not properly achieve goals, then a more powerful blasting agent would be employed. Most likely Autostem would be used in sensitive areas such as along the I-470 corridor or overhanging material. This proposal does not leave out the chance for more conventional blasting to occur on other parts of the mining operation.

There was a statement made, regardless of which explosive method would be used, the nature of this reclamation project involves removing topsoil along with overburden down to the shale layer to expose the roof of the underground mine. The topsoil is stored in berms along the property. Collapsing the roof by removing the supporting pillars of the abandoned underground limestone mine will involve a blasting process with minimal shooting compared to conventional mining. The mining operation intends to only shoot the pillars or roof beam and allow the roof to collapse from the weight of rock above. The Family Ranch Reclamation Project intends to survey the pillars within the mine for location purposes by using coordinates. Those coordinates would then be used to locate the pillars from the surface and drill down through the roof, or drill directly into the face of the pillar. Mining is not planned below grade of the underground mine floor. The majority of the crushing operation is below grade of I-470.

The Family Ranch Reclamation Project estimates to be removing three (3) to six (6) pillars per week which should only require one (1) to two (2) shots (blast) per week. Once the material is

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on the floor of the underground mine, The Family Ranch Reclamation Project will use excavators and hydraulic hoe rams to prepare the material for crushing.

The Family Ranch Reclamation Project is regulated by the following agencies but not limited to: Bureau of Alcohol, Tobacco, Firearms and Explosives; U.S. Department of Labor Mine Safety Health Administration; U.S. Department of Transportation, Environmental Protection Agency, Missouri Fire Marshall's Office, Missouri Department of Natural Resource, Missouri Mining Commission, Air Conservation Commission, Clean Water Commission and the City of Lee's Summit.

Handouts provided by the department consisted of a copy of the permit certificate, the permit revision application, the mine plan, and maps. The department also provided a contact sheet and requested people attending the meeting to sign in. The meeting was then opened for questions and answers.

Summarized Concerns or Statements with Responses

Comments and concerns have been summarized and grouped together for efficiency of presentation. Listed below are the people who raised concerns during the public meeting, and responses in consideration of comments or concerns received.

Subject #1 - Period of Operation

Concern: How long will operation be for; how many times a week will the detonations occur?

Response: The entire operation is planned until the year 2034. Blasting, if approved, will occur approximately two times a week which involves detonating two or three pillars for each blasting episode. Typical hours of operation will remain the same as they are now. Under the permit with the city, hours of operation are between 7:00 a.m. and 6:00 p.m. Star Excavation usually stops working at about 5:00 p.m.

Subject #2 – People who voiced concerns during the public meeting and responses

Cliff Deal: From the beginning of the project an alternative rock breaking method was proposed without the use of explosives. Star Excavations has used explosives. This method is being used due the objections to the use of explosives by the homeowners most closely affected by the mining project.

The current method of mining uses some type of hydraulic hammering. This method creates enough noise and pollution to be noticed in nearby subdivisions. Specifically, noise pollution is created at the project due to the hammering of rock. In conjunction, the grinding of stone to gravel creates enough dust to settle on our homes and is a nuisance. The commenter acknowledges that explosives are the way to keep the project economical. The proposed use of explosives causes much concern as to potential damage to our home. Blasting has been done on

site on rare occasions, at least three times. The boom and concussion is noticeable inside our home. Continued blasting on a routine basis is not an acceptable process to us as a homeowner. Other home owners share this concern. Our home is one of my largest investments. What will blasting do or not do to the home over a continued length of time. Please take into consideration my concerns as you process the permit revision.

Rod Gravitt: I am highly against this project. My front yard and my neighbors' front yard are right over a portion of the underground mine. My neighbors' portion of the underground mine joins ours. I access the underground mine through my neighbors' yard. My neighbor also accesses the underground mine. My neighbor and I want to develop our portion of the mine to grow mushrooms. I tried to make this point apparent with the department about four years ago. The applicant was issued a permit with a condition of "No Use of Explosives". The applicant agreed to the use hoe hammering and now they want to add explosives.

What has changed? The applicant can't get rock out fast enough to make a profit. Now the applicants' permit for blasting would be putting everyone's safety at risk. Four years ago, the department told us, that our health and safety would not be impacted. We told the department four years ago that blasting would be harmful to our livelihood and safety while growing and maintaining a mushroom crop, as we are looking at this to supplement our retirement. The department considered this as an excuse and was not considered during the initial permit. The underground mine is a perfect environment for growing mushrooms. The department is aware that we could be very close to the blast site if explosives are allowed to be used. A detonation of explosives approximately fifty feet away will be harmful to our safety and would certainly destroy our mushroom crop. The toxic gases released from the product of selection would permeate the mine and would certainly affect our health.

No landowner has the right to cause danger to another landowner while a person is on their own property. Most people agree to this concept of not harming an adjacent landowner, but allowing this permit revision to use explosives would certainly cause harm to me and my livelihood. Once the applicant receives a blasting permit, although Star Excavation mentions the use of Autostem, which is supposed to be a low energy explosive, once a blasting permit is in place, the applicant could easily go to ammonium nitrate if Autostem doesn't work. If the department removes the "No Use of Explosives" clause, our safety will be jeopardized. I could be on my property in the underground mine, I can walk under edge of Clifford Road and the applicant could be 50 feet away on his property and set off an explosive charge that could kill one or more of us while we are on our property. I think everyone in here agrees that this is unacceptable. You may ask, well how can that be? The Land Reclamation Program Staff Director understands that we access the mine through our neighbors' property. We walked to the edge of Clifford Road. The permit would say that they could blast within fifty feet or road right-of-way. Clifford road is completely undermined. We could be standing there 50 feet away and an explosive charge could go off. I feel that would impact our safety. I do not believe that is much of a stretch for the department to realize that. Again, our safety would be impacted.

What about the gases after the explosion which will permeate the mine? We could be in that mine at any given time and we will be in that mine. There have been complaints of blasting at this site. We have seen times when there is not much happening at the site. Then we hear the

explosion during the early morning hours and the next few days, rock comes pouring out of the site. We do not hear the hoe hammer anymore like we used to. When the applicant is questioned about that, they deny it. We have a video of one explosion taking place and it shocked me that the Assistant Chief of Fire Prevention took the video. That was against the permit that no blasting would occur.

By terms of the City's Special Use Permit my neighbor and I could be on our property in the underground mine and 50-feet away according to the city's permit, Star Excavation could set off a detonation. There is not much of a trick to what would happen to our wellbeing. Quarry Park Road and Clifford Road are the only access to our property. The open pit mine started on Quarry Park Road and will continue to Clifford Road. These public roads are sitting on top of the underground mine. What is the blasting going to do to the integrity of the underground mine to these public roads. These roads may already be compromised due to the hammering and blasting that has been going on for the last four years. We saw the video for the Autostem product and there are three different levels of Autostem charges. The applicant seeks to remove the "No Use of Explosives" condition on their permit to engage in surface mining issued by the state. Much like the hoe hammering, if the Autostem product does not work, the permit holder will go straight to ammonium nitrate which is detonated with a high explosive primer and that will send vibrations through the neighboring houses.

Reference was made to past happenings in Kansas City and the foot traffic bridge that collapsed in Florida which killed six people; point being, accidents happen. I ask the department to deny this permit application so Star Excavation does not make a victim out of me and my family. I am against this proposal. The applicant has never taken a mine apart before. The applicant does not know what he is doing, first wanting to use DARDA the rock splitting method, he had one crusher, now there is another crusher and now he wants to do blasting. I feel that the city gives this guy anything he wants and I do not know why. I do not understand why they are only taking half of the underground mine out. There is record of a blast that went off at the quarry in July 2017 and the department told them in March 2018, do not do it anymore. There was also a deal between the Star Excavation and the city that the applicant was going to take care of Quarry Park Road. Quarry Park Road is a disaster. We call the city and they come out and put some asphalt on the side. There are holes all over the road. Mr. Short sent a letter to Summerfield that if the blasting condition was removed they would monitor the explosions. I would like, if the department does remove the "No Use of Explosives" condition; that the department put on additional monitoring requirements. I do not trust that the applicant will monitor the detonations so I request that the department make it a condition to monitor the explosions. Disasters happen, who is going to take care of us? That is what we need to find out.

Christine Bushyhead: Star Excavations has been advised by the Lee's Summit Fire Department that the overnight storage of explosives on site is prohibited. The Special Use Permit issued by the City of Lee's Summit does not prohibit the use of explosives. The Special Use Permit does read that if Star Excavation does use explosives, then seismographic equipment must be set up and monitor from a seismographic standpoint any type of explosives that are used on site. The use of Autostem was self-reported to the department at The Family Ranch Reclamation Project from July to October 2017. At the time of using Autostem, Alcohol Tobacco, Firearms, and Explosives knew about the usage and at that point had not categorized that particular product.

Subsequently in October 2017, Bureau of Alcohol Tobacco, Firearms and Explosives categorized the product as a low explosive much like a Champagne Popper. Because it is classified as a low explosive, regardless how low it is, once it was determined to be an explosive, Star Excavation immediately ceased using the product.

Kathy Gravitt: I am not the type of person who can get up and speak in front of people, but I hope that my personal story will help explain why removing the “No Use of Explosives” condition will be extremely detrimental to my health, safety, and livelihood. I feel that I am stating facts that are truthful. In 2013 Mr. Short informed my husband that he bought a large tract of agricultural land of which 40-acres is right across the street from our home. Mr. Short told my husband that our home was the most valuable on the street. Mr. Short said that he would be reclaiming the rock right at the end of the mine cave, some of which is in my front yard. Mr. Short said that he would like to buy our property because it would be too dangerous for us to live there. To date Mr. Short has not offered to buy our property. Through the last four years it has always stuck in my mind the speech which a representative for Mr. Short presented at the city council meeting and also the informal meeting held for the department in early 2014. The representative stated that Mr. Short is an honorable man who does the right thing. The representative said that Flip will do what he will agree to do. On Clifford road there were horses grazing on land across the road from our house. Most people would agree that it sounds like a pretty perfect setting. I also understand Mr. Short’s dreams as well.

For the last four years we have lived in a war zone tradition, my property is no longer my dream for sure. I regret the day that we ever built the house of our dreams there. Never did I think that we would have to fight to protect the land of our home. I cringe every time I drive up the road where the mine site is as the road is not safe to drive on. There was e-mail communication as a result of consulting with Mr. Kevin Thomas in 2014 concerning the stability of Quarry Park Road as a result of the underground mine. We have lived with horrendous road conditions that Mr. Short was supposed to keep in reasonable repair. There are also near collisions with trucks hauling rock. There should be a fifty feet entrance to the property much like what we were required to do and it is much like a gravel road at the Star Excavation entrance.

The dust that is on the road that we have to travel through each day is unacceptable. We encountered four rattle snakes by your mining project last summer. This is not the area for my great home to be. When Star Excavation is mining the rock, the dust generated by the machinery is a violation along with the blasting that all of the residents have experienced in the middle of the night. We use to hear the hammering but we no longer hear that. When we hear a blast, rock comes pouring out of the mine site the next day. Unfortunately I cannot prove the actions that have been heard, but I am aware that other neighbors have also heard the blasts who do not live on Clifford Road. I know that Star Excavation has admitted to the blasting which is a violation of both the city and state permits. I do not believe that any person in this room would find it acceptable to violate these conditions.

Who is going to keep us safe? City officials are obviously not concerned with our safety or welfare. We have made complaints with the Environmental Protection Agency about the mining operation with no response. We request the department to not remove the condition of blasting

until there is one owner of the entire underground mine. The same underground mine that is in our front yard is the same underground mine that Star Excavation plans to remove, there is no barrier. By removing the “No Use of Explosives” condition will impact our well-being and our safety will be compromised. We could be feet away from a blast. Our property will be destroyed physically and financially. What happens when our insurance company cancels our homeowner’s policy? Our streets are already unsafe because of the underground mine, which is also under our property.

Mr. Short, when are you going to do the right thing with the neighbors who have suffered the most? Do you think it is fair for the treatment we have received? I know that life is not always fair. I am asking Mr. Short to do the right thing. In a letter Mr. Short sent to neighboring subdivisions Mr. Short mentioned that he cares about the City of Lee’s Summit. Mr. Short how are you going to protect the people who are most in danger? An e-mail that was sent to the department on April 2, 2014 from Mr. Short as referenced at the 2018 public meeting reads: “It's too bad that we can't tell the entire group that all of the owners will be moving and then we will be in control of 100% of the land owners which also includes our three partners, Ashgrove, Superior Bowen, and Clarkson. One day everyone will know and stop fighting for five people that don't live there any longer. We also don't need a courtroom to tell us not to use explosives since the application will have that as a requirement. Do these people really think I want to go to jail while shooting off explosives?” Thank you for your attention to this very dangerous situation.

Christine Bushyhead: Star Excavations has been in communication with the Office of the State Fire Marshal how to communicate with the Gravitt’s and other undermined properties when we use explosives. It will take Star Excavation about ten years for the mining operation to be near properties of concern. At that point Star Excavation will be in close proximity of the last two speakers. Just so you know that communication has already started with the Office of the State Fire Marshal.

Sandra Norwood Brown: I am not sure why such a small venue was chosen for tonight’s meeting knowing the gravity of the situation. So many people have to stand for excessively long periods of time; this room is standing room only. There was reference to an explosion which occurred, which blew through a Hospital’s Emergency Room. Damages to property were done.

I am going to read in part the letter that I wrote. My family and I are adamantly opposed to Permit 1105 allowing Star Excavation any permit that would allow the use of explosives or any means to mine in referenced parcel. We’ve had first-hand experience of the devastation and property damage this can and has done. Though there are always promises to fix and/or repair any property damages, these always lack in quality and timely resolution. Often resolutions are never to the satisfaction of the impacted residents and the residents become victims of government and business imposing their will at the expense of residents in the name of progress. And the impact of the property value dropping and the ability to even sale and have a safe place to live will be overwhelming.

I built my home in 1992 and became a Lee’s Summit, MO resident. One of the many reasons I chose my particular lot, was the promise – No building or mining would ever be permitted in

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parcel Number 51-830-03-38-00-0-00-000 due to the current permit disallowing any mining. That was a critical decision I made when choosing my parcel to build on. This land is also not stable for building. Any type of mining and use of explosives would only contribute to the instability of the parcel and all adjacent parcels. It is not rational to think any parcel of land can be disturbed and have no impact on other parcels.

What was stated in 1992 still holds true today and the permit should not be revised to allow any mining or the use of explosives. If the permit is allowed to go forward, I fear the safety, peace of mind, financial impact and property damage for me, my family and other residents of Summerfield Homes Association. It should be noted that this Star Excavation - c/o Bushyhead, LLC – 315 SE Main Street – Lee’s Summit, MO 64063 only sent letters to a few of the Summerfield subdivision property owners. There appears to be an attempt to be less than forthcoming. All Summerfield subdivision property owners should have received the notification due to the longer-term impacts. Again my family and I are adamantly opposed to this permit moving forward. Please do not allow the permit to be revised. Stop this action immediately. I also have some questions.

I understand that there are a variety of different state, local, and federal government agencies that provide some type of regulating oversight capacity at the mine site. What agency is out there for the protection of the homeowners? Or the impacts to them? What kind of relief can be expected? We talk about this going on until the year 2034. Who is the company that will be setting of the explosives? Will it be Star Excavations? If not who is the company? What is their experience record? In the video that you show of the Autostem product blasting charge you show the bucket that did not move. It makes it very hard to believe that blasting which moves a pillar consisting of tons of rock does not move a bucket. I am very, very opposed to this. I think this is an act of big government and big business working against the people that they are supposed to protect.

Christine Bushyhead: Before 2007 in Missouri there was no Blasting Safety Act. The 2007 standards of the Missouri Blasting Safety Act are put in place to protect people and structures from ground vibrations and air overpressure. Blasters now have to go through an extensive training period before being certified by the State of Missouri and also have to go through refresher courses every three years to keep the certificate valid. Blasting is now an extremely highly regulated industry. Everything will be done in accordance with the safety requirements. All blasting related operations would be carried out by a contract licensed blaster. Star Excavation will not conduct the blasting operations. The video blast using Autostem was not intended to move the pillar. The blast is designed to fracture the rock matrix of the pillar so the fractured rock can then be easily hauled and further refined into crushed rock products.

Mike Hochstedler: I am President of Summerfield Home Owners Association. We thought this was going to end with no blasting about four years ago. No Use of Explosives was the promise Flip and his associates left us with at the last meeting. Like Rod Gravitt said, I understand that this mining operation and future development is a business. You know, I take people by their words. When they say something they should do it. There should be no use of explosives. This proposal is to use explosives until the year 2034. There are concerns about our residents’ homes and damages that could occur as a result of blasting and the stability of the underground mine.

There are concerns about cracks in walls and how those cracks would expand being continuously exposed to blasting vibrations until the year 2034. These cracks will develop slowly just like explosives. During the video segment using the Autostem, that was a minor explosive. You could add a hundred of those and that would be one shot, correct? The video showed maybe three or four holes being detonated. It showed a pop. How do we know there will not be a hundred holes of Autostem going off?

Christine Bushyhead: The Special Use Permit that we have through the City of Lee's Summit requires Star Excavation to use a seismograph for each detonation at the property boundary. There was discussion about putting a seismograph along Clifford Road. The ordinance is written to put seismographs at the property boundary. The words Clifford Road are not in the ordinance. Clifford Road bounds the property we will be working on. Star Excavation is required to put seismographic equipment on the boundary of their property. There was discussion that the seismograph readings would be made available on the web by logging into a site. There would be one to three shots per week. There will be reference to the location of the detonation and where the seismograph measured the vibration level. The blasting will be done by a contractor licensed to conduct blasting operations. Star Excavation is looking at two different seismograph companies to monitor the detonations. The company being considered at this moment will provide seismograph readings available on the web. Star Excavations wants to do the right thing in accordance with the requirements of their permits.

Mike Hochstedler: Will there be a seismograph put up in Lowenstein Park? Summerfield cannot bless the mining operation to use explosives. We would welcome to stand by our initial agreement of "No Use of Explosives". That is how we feel.

Greg Gravitt: I do not live in Lee's Summit, but I have a great deal of interest here as I have some family members here, I attend church here and I do all of my shopping in Lee's Summit. I also conduct some of my business and banking here. I may also call Lee's Summit my retirement home. I have concerns about the use of explosives at the Family Ranch Reclamation Project. I went through something similar about two years ago as I live over near Lone Jack about a mile and half from where AA Quarry is conducting surface mining operations. I hear it. I worry about my foundation and my dogs jump when they blast. I jump when they blast. At first, I thought they would blast maybe once or twice a day, now they have stepped up their operation and it is going faster. The blast last Saturday shook the house and I am sure that it shook the foundation. Not all blasts are like this big one last Saturday. They also do smaller detonations. I realize that I do not have a valid complaint.

I realize that there needs to be rock quarries. There are places to mine rock where it does not disrupt the lives of a great multitude of people. I realized when I bought out in the country there was no planning and any type of business could go in, and there are. There could be a hog farm, there is not, and thank goodness I do not have to worry about one of those. There is a shooting range on one of my neighbor's property where guns go off all the time. For the freedom I have to be in open places, there should be some control on what moves in close. Imminent Domain is a term they use to take other people's property for the benefit of a multitude. It is based on an inconvenience to a small minority to benefit a large majority. It seems to me that this democracy is happening here. This is no small country area where a few small families reside. These

mining operations do not fit in with the community of Lee's Summit. It just doesn't make sense to me. This is a change of life for a multitude. These citizens would have never considered this type of operation when they set up residence here. Lee's Summit is a growing place. There are a lot of other wide open areas to put in a rock quarry. Permitting these types of operations at the outskirts of Lee's Summit is reckless at best. There was reference to making repairs from blasting operations on foundations. Ask them if they can put that in writing. At least every affected person should have an opportunity to get out. There should be consideration to fair market value and reasonable compensation. I do not know how to value what reasonable compensation is. What I am asking is the mining company to put the burden on their shoulders to consider their impact on the others and let them determine what an appropriate action is.

Christine Bushyhead: When the interchange was being built the material came from a nearby property and the rock was blasted to make the interchange. Blasting has occurred in this area in 2006 for a period of two years and there was about one detonation per day. Rarely is there more than one blast per day and typically no blasts are allowed on weekend days. Blasting is highly regulated and blasting does occur regularly in urban environments on a regular basis.

Dr. Charles Spencer: Five years ago I was hired as a consulting geologist to document what was going on at the site. I am not hired as a geologist for this meeting. However, I live in Lee's Summit, I have an interest in this and my past documentation is out there. I have a full statement written here. First, I would like to correct the Special Use Permit, a seismograph shall be set up on the North and South Side of I-470. I request the city to reword the permit. There is record of Alcohol Tobacco and Firearms classifying Autostem as an explosive as early as 2013 and appeared in the federal register in 2014. Autostem was known to Alcohol Tobacco and Firearms to be an explosive long before 2017. Regardless of the purpose for using the Autostem, there was an explosion, it violated the state permit, I understand that they self-reported that and I am glad they did. In doing so they also violated the Conditional Use Permit of the city, because it requires the monitoring with seismographs and public notice of any blasting operations. There is no reference and it does not matter how big the explosion was. An explosion is an explosion. There is no detail mine map at the Fire Department which is a requirement of the Conditional Use Permit. There is a map, but it is not a detail map of the mine, I do not care what anybody says. It is a working phase map of the mine created by Union Quarries that is thirty (30) years old. The statement plan is not very good either.

Once the condition is removed they are free to use any type of explosive they want. We have hopes that they will be responsible and I hope the guys over there know what they are doing. They still look like they have all of their fingers. The blasters are licensed and the Office of the State Fire Marshall does check to make sure they are properly trained to conduct blasting activities in Missouri. Blasting can be done safely. Blasting does occur all over the country and it happens all the time. If done correctly blasting can be perfectly safe and it will not harm your property. A lot of people here do not believe that blasting can be done safely in this mining situation. There is a step I believe could be taken to ease the fear of everyone here. One is to write up a plan that can be put on file that everyone has access to and one that can be adhered to. This is needed so that people will know what to expect. Consideration should be given to a Pre-Blast Survey of not only the surface structures but also the underground mine field. My concerns of five years are still there. Which is the mine ceiling under adjacent properties could

be destabilized by the use of explosives or any vibrations. There was no plan written exactly how mining is going to progress. The more information that Star Excavation can write down and make public the easier the process is going to go. Provide mining plans on exactly what you are going to do. Plan it all out so there is no confusion. Prepare a monitoring plan and do not install just surface seismographs but also on the mine ceiling under adjacent properties and certainly under the Clifford Road right-of-way. The Terracon report suggested to the city:

“Install extensometers or other instrumentation at selected locations along the street alignments that enable forewarning of mine roof movements and potential domeouts or collapse. Surface-monitored instrumentation should be located over rooms, not pillars. If room locations are not well known, more monitoring points should be considered to account for the more random location of instrumentation, with some over pillars.”

The city is lax when it comes to oversight and the lack of oversight is not just at this site. There are other monitoring things you could do. Prepare a response plan on how Star Excavation is going to respond when situations arise under the roads and peoples residences. Put it in writing. Stop, we are going to figure it out and not do anything more until the response plan is put in writing. We want to know what is going on and we to figure out what is going to be done to protect the citizens affected by this mining operation. I am familiar with the seismic monitoring company as I know some of the workers. Yes that information can be made available on line, but we also need these written monitoring and response plans, too. These plans can also be put on a web site and also update it on a daily basis about what activities will be taking place. These plans may help quell some of the fears that I am hearing. These plans will help protect the developers' rights as much as the adjoining property owners. If you have data, it helps to protect everybody. There is no logical reason why not to do this. The monitoring will most likely not be required by the Department of Natural Resources. I have hopes that he city will tighten up the terms of their permit. I think if the developer is more proactive here in being more transparent and writing things down that will help the situation.

We have evolved from no blasting, to sort of blasting with Autostem, to ammonium nitrate blasting agents as that is what quarry operations commonly use. That is what Union Quarries used to make the underground mine by blasting the limestone into small pieces to make the gravel that you have on your driveway. The Department of Natural Resources can require these monitors even though they may not think they can. The City does have the right to require blasting related conditions as a result of their permit. URS writes these types of plans every day and they could provide assistance in writing the plans. URS has geotechnical engineers who know what they are doing.

Justin Beaver: There was a question asked when a portion of the underground mine ceiling drops how much vibration is felt. There is not much vibration as there is a small ripple effect that goes through the mine. Someone could be working a pillar away and not notice that the adjacent ceiling fell. This is due to the sponginess of the underground mine floor. It consists of shale and soft mud that absorbs the impact of the ceiling. This will occur regardless of using hoe ramming equipment or explosives.

Are there any concerns with the shockwaves that will be traveling through the rooms and pillars of the underground mine. How far do the shockwave travel? Shockwaves depend on the density of the rock and the type of explosive used.

Dr. Charles Spencer: There is no data concerning this mine involving what type of impact would be created by any type of explosive used. There are parts of the mine that are right now quite stable. When all is done correctly according to plan, you can limit the amount of vibrations from the dropping of the ceiling. Uncontrolled room failures occur and have been registered by seismographs as one happened under Indian Springs Shopping Center and the Kansas University monitor registered it. Things can go wrong which is why a mine plan, monitoring plan, and a response plan are a logical requirement for this operation.

Christine Bushyhead: Star Excavations does have a mine plan on file with the city. There are diagrams and safety plans on file as part of the requirements with the fire department. Currently the permit with the department has the “No Use of Explosives” language.

In 2013, before using Autostem, Star Excavations did check with Bureau of Alcohol, Tobacco, and Firearms and it was not until October 2017 when Bureau of Alcohol, Tobacco, and Firearms identified to Star Excavation that Autostem was classified as a low explosive. When the report of Autostem was determined to be a low explosive, Star Excavation ceased using Autostem.

Was there any monitoring equipment in place when using the Autostem product? When Star Excavation used the Autostem product from July to October 2017, Autostem was not classified as an explosive and therefore Star Excavation did not look at Autostem as an explosive. Star Excavation was specific within the act of using Autostem because of the permit condition with the department. Later Star Excavation did self-report the use of Autostem to the department. There was a question of whether it was a lack of communication or a misclassification of Autostem by Bureau of Alcohol, Tobacco, and Firearms. Star Excavation did work with Bureau of Alcohol, Tobacco, and Firearms prior to the use, and when informed in October 2017 that Autostem was a low explosive, Star Excavation ceased using the product. Autostem is a fairly new product as compared to explosives that have been used for the last forty (40) years.

There was a concern that there are reports of Bureau of Alcohol, Tobacco, and Firearms determined that Autostem was an explosive as documented in the Federal Register in 2014. So use of the product in 2017 was a violation. So how many other violations are out there that Star Excavations is not aware of?

In the use of Autostem, Star Excavation followed the direction that was provided to them by Bureau of Alcohol, Tobacco, and Firearms. Is it not a requirement of a contract blaster to know all the laws concerning the use of explosives? Star Excavation has the responsibility to contact the fire department and Bureau of Alcohol, Tobacco, and Firearms, and they did work closely with the two agencies when using Autostem. Star Excavation was advised to proceed and did so until October 2017 when Bureau of Alcohol, Tobacco, and Firearms determined that Autostem is a low explosive.

What caused Bureau of Alcohol, Tobacco, and Firearms to come back with a redetermination that Autostem is a low explosive? To the best of Star Excavation's knowledge at the meeting the redetermination is a result of the letter written in 2013. There was discussion that the importer of Autostem into the United States sent the 2013 letter to Bureau of Alcohol, Tobacco, and Firearms informing them of what the material was. The sole importer of Autostem then re-filed with the Bureau of Alcohol, Tobacco, and Firearms, and then Autostem was reclassified as a 1.4s explosive.

Our house was built in the mid-1960's. When was the first mine permitted by the city? The first Special Use Permit issued by the city for the underground mine was in 1961. Was there not some use of explosives back in the 1980's? Union Quarries did use explosives from when they first opened the quarry until about 1981. What is the difference between prior uses of explosives as compared to Autostem? Autostem burns at a much slower rate of speed of about 300 feet per second whereas ammonium nitrate and fuel oil ignited by a high explosive burns at about 10,000-feet per second. Autostem produces a lot less vibration as compared to conventional blasting. Would the residents hear or feel the explosion create by Autostem? There were attempts made to use a seismograph to measure vibrations about 60-feet away from where Autostem was used and the Autostem detonation did not trigger the seismograph. If you stand about 100 feet away from where Autostem is in use, you would not notice it. If you live a distance away you should not hear or feel when Autostem is being used.

Under the permit with the city, hours of operation are between 7:00 a.m. and 6:00 p.m.. Star Excavation usually stops working at about 5:00 p.m. There are eleven conditions with the Special Use Permit with the city. Condition number ten (10) - The applicant shall provide public notice of planned blasting activities. Condition number eleven (11), the applicant shall take seismographic measurements during any blasting activity. These measurements shall be taken on the north and south sides of I-470 and results shall be made available to the public. The applicant shall coordinate with the city engineer and shall coordinate as to the locations of the city owned property or city right-of-way that would be suitable for the placement of seismographic measuring equipment.

What is the chemical makeup of Autostem that makes it being classified as an explosive? I am not sure of the ingredient that makes Autostem classified as a 1.4s explosive. There is slight amount of a compound in Autostem which Bureau of Alcohol, Tobacco, and Firearms classifies as an explosive and only if there was zero (0) amount of the compound, then Autostem would not be classified as an explosive.

Nitrocellulose is the chemical compound that makes Autostem an explosive. Autostem was mentioned in the Federal Register as an explosive in 2014.

Rianna Deselich: I live about a mile away from here. I have past experience with other quarries, seismographic equipment and whether people feel or do not feel an explosive. As a result of Ordinance 1210776 for Kansas City some residents received insurance compensation as a result of a neighboring quarry using rotary hammers to break rock within 500-feet of residences. I was also involved in this fight in 2014 as a result of Carol Siegrist. Right before we had the meeting in 2014, we were told that the operator and developer was no longer going to use blasting and

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was going to use the rock splitting system called DARDA. This was the cure all and everyone would be happy because there would be no use of explosives. Apparently they did not produce enough rock, they lost contracts, and essentially they did not produce the tonnage to keep their business productive.

So when I heard about this in 2018 about a few weeks ago. I went back and reviewed the permit from 2013 and it says no blasting. So when I heard about this I started some research. I requested the Missouri Department of Natural Resources provide to me the regulations of mining. I was provided the revised statutes and the regulations Division 40, Land Reclamation Commission, Chapter 10, Permit and Performance Requirements for Industrial Mineral Open Pit and In-Stream Sand and Gravel Operation and the rules at the Missouri Division of Fire Safety. I have been reviewing these documents for the last two weeks. I am resentful that all of the research is placed on the residents to conduct this research and not the developer. I came up with eleven (11) different questions: (1) Can you please send me a link to 493.050? (2) Why weren't notices sent out to all property owners within a half (1/2) mile? (3) Do you have a copy of the letter that you can forward me, which Star Excavations sent out please? (4) Can you provide the 2018 application for "No Use of Explosives"? (5) What type of explosives are they proposing to use? (6) Can you tell me why Clifford Road is not considered a public road? It is not a private road. (7) Can you tell me why Highway 470 is not a public road? (8) Can you tell me what acid-forming materials might be in this case? (9) What is spoil? (10) What is overburden? (11) Do you have record of your inspections since 2014? If so, can I have a copy?

I did receive a copy of the law, regulations and a copy of the inspections were provided, but the rest of my questions went unanswered.

Missouri Department of Natural Resources: The Sunshine Law Request submitted by Rianna Deselich was sent to the departments' legal counsel for a response.

Rianna Deselich: I am concerned about the transparency and fairness to the property owners who have property within 2,640 feet or a half mile of this mining operation. I can tell by review of documents from City of Lee's Summit that they require notification within 185-feet as a requirement that was used in 2013. The state of Missouri Statutes on notification distance requirement is one half mile or 2,640 feet. The one half mile notification requirement should be used in this case for fairness of property owners in the City of Lee's Summit or Kansas City. According to the revised statutes, notification from Flip Short was inadequate. No Kansas City residents or HOA's were sent notification via certified mail. No certified mail was also sent to all Lee's Summit landowners or residents who live within a half mile. This is not transparent and it looks like the developer does not want to inform the residents so there will be little to no opposition to revise the "No Use of Explosives" condition on the permit to engage in surface mining by the state. Since March 19, 2018, I have asked for a response from the department to these comments and have received none.

Are you forcing the neighborhoods to hire a lawyer? Raise your hand in this room if you have heard explosions. A similar concern to lack of notification is equivalent to the blasting occurring in the wee hours of the night for the last five months; without permission from the state of Missouri. My neighbors and others have heard explosives from the direction of I-470 and Prior

Road. Once I found out that Star Excavation was applying for a permit to blast and had information that Star Excavation has not made the production tonnage or able to fill contracts, the bright light went off in my head. Maybe they were just switching operations. I did send out a letter to my contacts and asked if they would inform me when they hear an explosion. On March 8, 2018, two families who live on Bannister Road heard two different explosions. One was at 11:30 p.m. on March 8. The other one was at 12:10 a.m. on March 9, 2018. One other person who lives on Bannister Road heard the same two explosions. I know your response will be where is the scientific proof that these explosions took place? Well nobody has seismographic instruments in their yard to provide such proof. If there was a graph in the quarry they could dispute my word by showing readings right now that there were no readings from the seismograph. Show proof that there was no blasting done by the operator Star Excavation. In conclusion the property owners respectfully ask the director and the commissioners to oppose revising the permit to allow blasting.

If the department chooses to elect to allow blasting then we ask for an opportunity to have a formal meeting in Jefferson City.

There is one other letter that I would like to read. There is an Iraq war veteran who suffers from Post-Traumatic Stress Disorder. Every time he hears blasts coming from that mine he is severely affected. So I put out some information about the meeting tonight and received a lot of inquiries. One response came from a veteran who lives in Bent Tree Bluffs. I am veteran of the Iraq war and served an extended tour of duty during my two year combat employment. I endured life and death struggles of a war zone. One of biggest threats came from the mortar and rocket attacks. These attacks would come without any warning. There was no standard length of time between the explosions. Whenever I hear or feel any type of explosion like those rockets, it takes me back to the place of laying in a concrete bunker waiting for the next impact of an explosion charge. Wondering too, if anyone was hit. Was the next round going to be closer? I feel the percussion and the sound waves throughout my entire body. I expect the blast waves and hot metal to tear through me. Every year during the week of Fourth of July my family leaves town. We have found that my body and my mind cannot handle the spontaneous pops and booms even from simple fireworks. These sounds send me into flashbacks that I cannot control and that tear me apart from the inside. My reactions to explosions are not always so intense; however they are often. If controlled explosions from blasting were authorized, we would have to move. We would not be able to safely live in our home.

My husband has PTSD and TBI as a result of combat while serving in Iraq. As a result our family has adjusted to this reality and we do quite well. There are many challenges that we face and we continue to move forward. We have worked through difficult times such as thunderstones and Fourth of July. We have tried various techniques. If blasting were approved our home would no longer be safe for my husband to live or my family. My husband would have flashback type symptoms when dealing with the percussions and unexpected sounds living near a blasting zone. This would put him in a state of perpetual disassociation which would have incredible impact to his health and peace that my family has worked so hard to achieve.

In closing, I resent this analogy that the explosions will be comparable to a champagne cork. I pop champagne on a regular basis. People in the next room can barely hear it. I have

dimensions of the distance of how far people live from the mine site. I live almost a mile away and I hear these blasts. I have been hearing these blasts in the fall. The blasts did not stop in August or July. Has the City of Lee's Summit been informed or complained to concerning these alleged blasts? I do not live in the City of Lee's Summit.

How are the vibrations going to affect underground pools? With high explosives it depends on the density of the material being blasted and weight of the charge. For blasting at a typical quarry when blasting on a solid ledge, the vibrations are pushed back against the ledge.

Are the vibrations going to affect underground pools?

Justin Beaver: There is a hierarchy of blasting related damages. More fragile construction material such as glass, plaster, and drywall will break before concrete. The levels of vibration necessary to cause damage to a concrete foundation are so high that the structure would sustain unreasonable damage in the portions above ground long before the foundation became an issue. If a concrete structure is below ground it is protected all the more from blasting related damage.

Christine Bushyhead: We are asking the department for the ability to use explosives. We have two different types of explosives Autostem and more conventional blasting that is done at a typical mining operation. In no way are we trying to misrepresent to you that we will not use the conventional blasting, Hi-X category. Would you be willing to only use Autostem and go back out on public notice when wanting to use higher explosives? No we would not. We have gone through that process before and so we believe that we can do this appropriately. We are highly regulated. As we approach sensitive areas such as homes or the highway we would most likely switch from Hi-X explosives and use Autostem in those types of situations. We are asking to use either method. It also depends on how the seismograph information turns out.

About the vibrations within 500-feet. That is a state law requirement. If there is a resident within 500-feet of where we are going to set off a charge, then we have to do a pre-blast survey. Regarding notices, the map with numbers and the highlighted areas was created by the department as Star Excavation worked with the department about where to send certified notices. This is a permit revision and this is the direction the department provided for the permit revision. Star Excavation followed the direction provided by the department. There is absolutely no unwarranted motive that Star Excavation was trying to do. Star Excavation also published once a week for four consecutive weeks an advertisement of a public notice in the newspaper the *Lee's Summit Journal*. Which is also a requirement of the public notice process and there is a publisher's affidavit that was sent to the department. This is public information that can be requested. The 185-foot distance requirement is for a notice that is used for re-zoning purposes in the City of Lee's Summit. The 185-foot notice is also a requirement of the state concerning the Zoning Enabling Act for Special Use Permits. There are also publishing requirements for Special Use Permits.

People around me received certified notices but I did not. Star Excavation did mail out 35-certified letters. There was further discussion of someone who resides on the side of number 23 marked on the map. All of my neighbors received certified notices but I did not get one. All of Summerfield is setting on fill dirt. Fill dirt is stable but it can settle. What will happen to the fill dirt when you start using the high explosives? A seismograph will be set up and the readings

from the seismograph will tell you what you can and cannot do. There are vibrations that are measured in frequencies which will verify if an explosion has the ability to cause damage. Blasting is a highly regulated activity. The certified blaster stated that we do not just go out and shoot and hope everything will be alright. This is a regulated business and people who conduct blasting activities have to be properly licensed to do so. There are pre-blast and post blast surveys that are required. There is a 500-foot distance for a pre and post blast survey and fifteen hundred feet for blasting notification letters. When Star Excavation applies for their blasting permit that is when the blasting notices go out.

People at the meeting were unclear about the 185-foot versus the 2,640 feet. The 185-foot relates to zoning concerning city and state law. In Kansas City everyone who lives within 300-feet is notified because Kansas City is a responsible city. Concerning the statement that Star Excavation has continued blasting operations since October and that Star Excavation continued to use Autostem when told to cease, was not so. Star Excavation is representing to you that there has been no blasting operations on Star Excavation property since we were told to cease. Star Excavation did not use a seismograph during the use of Autostem because Star Excavation was told that Autostem is not an explosive. Whether people want to believe or disbelieve that explosives were used after being informed to cease is for the people to decide. We can agree to disagree about the use of explosives after Star Excavation was told to cease using explosives. Someone stated when Star Excavations used Autostem, Star Excavation violated the city permit.

An explanation was provided that Star Excavation would drill into the top of a pillar, load the pillar with explosives and detonate the pillar to cause the roof to collapse. Someone mentioned is Star Excavation committing at this time to detonate only the pillars? That is why we need a blasting plan to know what to expect.

Rachael Dougherty: I am from the Winterset area. We were notified of this operation through our neighbors who live next door. We have blasting on View High and 3rd, so I understand blasting. I want to know about the seismographs and will they be able to measure sound waves? Yes, seismographs are able to read acoustic levels and that is also required by state law. If property damage does occur, who will be responsible for fixing the property damage? Is Star Excavation willing to put in writing that if there is proof of property damage that Star Excavation is going to repair that damage?

Christine Bushyhead: Star Excavation made a commitment to follow regulations to the “T” and seismograph readings will be taken of the blasting operations. If the seismograph does not measure damaging levels then there is no damage. Concerning the blasting that is going on around the Family Ranch Reclamation Project, Star Excavation has nothing to do with those blasts. So the blasting company would be the one who determines whether a detonation could cause damage. The blasting company has to follow their regulations. Star Excavation looks to the professionals conducting blasting operations to keep vibrations from explosions within the guidelines of the state. Justin Beaver with Lutrell Blasting Enterprises has a \$10,000,000.00 insurance plan coverage. If anyone experiences a problem with the blasting, contact Justin with Lutrell Blasting. Justin will then contact their insurance coverage and an insurance agent will come out and investigate. The insurance claim agents know what they are looking at. How many claims have you had in the past? Response, zero (0). There was a comment that the

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\$10,000,000.00 will cover about 30-homes in the area. The \$10,000,000.00 insurance coverage which Lutrell Blasting has is more than what is required by the state. People in the audience were still concerned about the amount of coverage and how far that coverage would go.

So what we have heard is that blasting will be conducted a few times per week, does Star Excavation know when detonations will occur? Is there any type of a schedule so that we would know when to expect a detonation? Star Excavation is required to notify the Fire Department to let them know. There are situations when weather may be setting in and we may have to blast before the weather sets in. Star Excavation will send seismographic information directly to the fire department. If the blasting is not within the guidelines of what the rules are, the fire department will come in and shut Star Excavation down. There are three agencies that will monitor our proposed blasting activity: Bureau of Alcohol, Tobacco, and Firearms, State Fire Marshall, and the City of Lee's Summit.

There are underground mine tunnels that run to the south side of I-470. Are you going to conduct blasting operations on the South-Side of I-470? No. Star Excavation only has a permit to work on the North-side of I-470. Only the 70-acres identified on the map is where Star Excavation is allowed to conduct mining operations with the permit issued by the state. The extent of property is from the red circle area to the barn that can be seen from I-470. Star Excavation does not own all of the land where the underground mine is located. If someone else were to conduct mining operations in other portions of the underground mine, they would have to go through a similar process in order to conduct mining operations.

There are four tunnels that go under I-470, how are you going to stabilize those? How will the blasting affect the four tunnels that go under I-470? The tunnels going under I-470 are not owned by Star Excavation. There are no plans to do anything to the tunnels. The tunnels are some of the most stable parts of the underground mine. The tunnels are long and solid. The opening is not forty-feet (40') wide. The tunnels are not very wide, but there was no dimension provided. With the blasting, can you guarantee the stabilization under my property and the rest of the area? Will that affect the stability in other parts of the mine? Missouri Department of Transportation is aware of the tunnels and constructed I-470 over the tunnels. Would you be open for Missouri Department of Transportation to conduct further studies on the stability of the tunnels under I-470? Star Excavation does not control or own the tunnels. Star Excavation is providing no facts as to the stability of the tunnels under I-470 or what Missouri Department of Transportation believes how stable the tunnels are.

If the decision is for the permit to engage in surface mining, to remove the condition of "No Use of Explosives" would Star Excavation then use any type of explosives? Response: Yes.

David Phillips: Is the person who makes the decision about allowing or not allowing explosives here tonight?

Christine Bushyhead: The Director of the Land Reclamation Program, Larry Lehman is here. That is why the meeting is so important, Director Lehman is hearing from you as part of this informal public meeting. The public meeting was requested and the meeting is one part of the

public notice process. Star Excavation is here to provide facts. I am sure that a formal hearing will involve people who are sworn in to testify, which is not the case tonight.

David Phillips: I feel this is more of a discovery process to see how much opposition there is and how people laid the groundwork of arguments that could be used in a hearing. Star Excavation has the 70-acres up to the horse barn to conduct the surface mining operations for the underground mine. There are some additional acres that Star Excavation owns that are not part of the use permit, correct? Response: That is right. So Star Excavation only has a small part of the mine affected right at the moment. There was a request to show the pillars again. So the plan is to drill down from the top and then Star Excavation will shoot off the pillar and three to six pillars will be removed in a week or a day with two shots. Star Excavation was not sure of the exact plan. That is exactly why we are here tonight because we do not know what the plan is. Originally the plan was to take down the pillars without any blasting. The question is if you do not know what you are doing why should we approve this and go forward with something. Star Excavation is leaving the audience with: Star Excavation wants a blank check to just blow the hell out of the hillside. The reason Star Excavation does not know the method of mining is because there are a number of ways to dismantle the mine. Because Star Excavation does not have approval to use explosives, Star Excavation could not come to this meeting prepared to explain all aspects of the blasting related activities. There will be a number of agencies that will regulate the blasting activities. There was reference made to the Barber mine sitting out in the middle of 500-acres, whereas this site is sitting in the vicinity of a bunch of homes. People do not put a gravel pit right next to a bunch of homes. At the start Star Excavation thought they could remove the mine with a rotary hammer or DARDA. Now they find out they cannot make enough money so now the plan is to use explosives. The problem is if Star Excavation is given a blank check, they can blow anything. The other thing is that Star Excavation did not know that Autostem was an explosive.

There was reference to the Oklahoma ammonium nitrate and fuel oil bombing and dry ice in a pop bottle as being an explosive. Star Excavation has already showed a tendency to make as much money you can as quick as you can bend the rules. Star Excavation should have known what was going on with Autostem and that there was a pop associated with Autostem. The state has the ability to make the decision so the impact of one individual does not affect or impact hundreds of others just because they want to make more money. The owner of Star Excavation already has enough money. The owner of Star Excavation is going to wipe out everybody else and he does not care. Star Excavation already said they do not know what they are doing as provided by their own testimony. The owner of Star Excavation came in and bought the land cheap because nobody could do anything with it. The initial plan did not work out the way the mining company wanted. Now that Star Excavation is in a residential area, the company just wants to blow it up. The owner of Star Excavation has three different companies and the reason he has three different companies is because if this one comes up and does not make enough money he can walk away from this endeavor and has two other companies to go back to. Star Excavation is not sure what they are going to do and they will not back up from this. Although there have been some fact checks and a geologist spoke, Flip's integrity wise, character wise, just do not give them a blank check because we are going to get wiped out. That is the departments' job to keep that from happening.

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Christine Bushyhead: Star Excavation knows this is an emotional topic and we are trying to keep subjectivity out of this meeting. Star Excavation will not be responding to these types of comments.

Member of the Audience: This process at the moment is more an exchange of information; if we want to continue our fight what do we have to do?

Larry Lehman: The director of the Land Reclamation Program has six (6) weeks from the date of this public meeting to investigate the application and make a decision to issue or deny the permit revision application. Public comments will be considered when making this decision. Any interested party whose health, safety, or livelihood will be unduly impaired by the decision will have an opportunity to appeal the decision to the Administration Hearing Commission (AHC). If the director denies this permit revision application, Star Excavation can appeal the decision. If the director removes the condition of “No Use of Explosives”, affected parties can appeal the decision. All appeals must be filed by petition within thirty (30) days after the director’s decision as provided by 621.250.3 RSMo. All appeals must be filed by petition and sent to this address: Administration Hearing Commission, PO Box 1557, Jefferson City, MO 65102.

How will people know what the decision is? Everybody who wrote in or provided a legible address on the sign in sheet will be mailed this decision. A hearing before the Administrative Hearing Commission will be more of a formal process where scientific evidence is presented. People are sworn in. After the hearing, the Administrative Hearing Commission makes a recommendation to the Missouri Mining Commission. The Missouri Mining Commission can then make a decision to accept, change, or reject the recommendation made by the Administrative Hearing Commission. If people want to appeal this process further, this process can then be further appealed through the Court of Appeals.

The department is here tonight to listen to testimony and all of the concerns that are being voiced about this permit revision application to remove the condition of “No Use of Explosives”. The director of the Land Reclamation Program has to make a decision based on the environmental laws and regulations administered by the Missouri Department of Natural Resources. What the director heard tonight is more related to local planning and zoning issues as these types of comments are commonly voiced at public meetings like these. The department does issue many mining permits per year for activities such as what Star Excavation is proposing. Quarries in residential areas are not unheard of. There is a quarry in downtown Jefferson City, Missouri. Areas of the Jefferson City quarry are now occupied by a Sam’s Club, Lowes and other retail chains. There are also residents nearby. This quarry is still operating, just about on the other side of the fence from these retail outlets.

This meeting is part of a process to listen to concerns and assimilate that information to make a decision. The director has read the decision and other information from 2013 and 2014, the report put together by Terracon, and other related information.

What about the deal that was made back when Mr. Flip Short told everyone that there would never be explosives used at this quarry? The department understands that this deal was made to get the permit and agreed to not use explosives. There is nothing in the laws and regulations that say an applicant cannot come back and request a new application or revise the current application. There was a comment for everyone to raise their hands for everyone who is opposed to blasting. The decision will be made on what the Missouri Department of Natural Resources has laws to regulate, which include air, water and waste management issues, items like that. This mine is a unique case in the way it was set up. The decision will be reviewed by the Administrative Hearing Commission and the Missouri Mining Commission. Even if the decision is to issue the permit revision application to remove the condition of "No Use of Explosives", the permit from the Missouri Department of Natural Resources does not override any other permit issued by another government entity. Just because the City of Lee's Summit allows the use of explosives at this site that did not lawfully allow Star Excavation to detonate explosives against the state permit. Essentially if the City of Lee's Summit decides to rescind their blasting permit, then Star Excavation does not have a legal right to detonate explosives.

Can the permit be issued with a restriction to use the champagne cork type of explosives rather than the high explosives? Normally our permits do not have restrictions but I will have to investigate that. Normally the permits are issued to the effect of you have the right to mine this area. The use of explosives at limestone quarries is not regulated by the Missouri Department of Natural Resources. The reason the "No Use of Explosives" condition was on the permit was due to the fact that the company agreed to that condition to be placed on the permit certificate. There was then discussion of burning brush piles within 600 feet of a residence. The comparison was that you cannot burn a brush pile within 600 feet of a residence but you can blast with dynamite.

Jim Tosser: I was involved with this operation about four and a half years ago. I suggest contacting your city legislature hundreds of times. Call Arbo thousands of times. Ring their phones off the hook. There is some room to change the wording on the acceptable use policy as the company has to re-apply after five years. Star Excavation has not turned in a complete site plan for five years. Star Excavation has not reclaimed any type of land so far. Reclaiming land was part of the five year plan that they had to turn into the city. My thing is knowing how City Hall works a vote comes up on Tuesday, call anyone who you know in the city, and ask them how they feel on this action because that is the best way for us to win outside of hiring an attorney.

Has Star Excavation filed their five year plan for the reclamation plan with the city? Response that plan is not due for another year. There has been no five year reclamation plan filed with the city. Has any of the property that has been affected by mining been reclaimed for redevelopment? Star Excavations has not completed a segment yet. Reclamation will occur when mining is completed. Once pillars are removed and the roof has dropped, mining will continue to advance, and equipment will be driving over a mined out area. The reason reclamation will not occur until after mining is complete is due to haul route traffic traversing the mined out area. The biggest concern I have is from the Lutrell Blasting gentleman who was up here: How many times has he or the company used the Autostem explosives since the product is

just new coming out? The product was used last year. So the experience with Autostem is very minor. So you are turning over what is a potential implosion that would hurt these people's homes to someone with limited experience. How many projects have you done with this new blasting agent? How long have you been working with Autostem? How many shots have you done with Autostem? In the last year how many projects have you used Autostem? Response is three (3). So you are turning over a multi-million dollar blasting project to someone who has only done it three times. This is a new product. Autostem has been used for about only a year. Star Excavation has hopes to use this new product. Star Excavation is requesting to use explosives not being limited to only the use of Autostem. The lady from Winterset, she was asking many questions. Once Star Excavation gets their permit they can use any type of explosive they want to use. How often do all these agencies come out and check the mine? Response: regular. Monitoring is checked every day electronically. Can the seismographs be turned off? No, the seismographs are monitored by a third party. A question that some of the homeowners want to know is about the distances between the blasts and the distance between the property lines. Has Star Excavation talked to the new development company across from I-470 and are they aware that blasting is planned for the mining operation? Drake Development is aware of the blasting proposal by Star Excavation. Drake Development did send in a comment letter concerning this application.

What are the hours of operation? The Special Use Permit issued by the city allows the hours of operation from 7AM to 6PM. People have reported seeing workers there past seven at night and working all day Saturday. There was reference to a map. The mine plan boundary illustrated in Figure one (1) is where Star Excavation is planning to use explosives. Some people did not receive their certified mail until March 15, 2018. Our neighbors received a letter after the fact as well. There was discussion about the first tier property owners who received certified mail. There were three mailings that went out. There was also notification as a public notice that was published in the *Lee's Summit Journal*.

There was a concern involving the mining operation if explosives are allowed, would the neighboring properties be monitored or would a pre-blast survey be conducted on properties. By law if blasting occurs within 500 feet of a residence, a pre-blast survey would be conducted. Autostem was used from July 2017 to October 2017. October 2017 is when Star Excavation was advised that Autostem is classified as an explosive and Star Excavation then ceased using the product. There was discussion of letter dated August 3, 2017, by Greg Carrell which was sent to Star Excavation stating that Autostem is considered an explosive and would require a licensed blaster to use. Why did Star Excavation wait until October before they stopped using Autostem? Star Excavation contends that they did not receive notice until October 2017 by Bureau of Alcohol, Tobacco, and Firearms that Autostem was considered an explosive. There was an approval process for the use of Autostem. There was an inspection by the City Engineer and the Fire Department to witness a shot of the Autostem which received their approval for use of Autostem. Then Bureau of Alcohol, Tobacco, and Firearms gave their approval. There was concern that the Fire Department should have done their homework and determined Autostem was designated as an explosive sooner. If people want to take that issue up with the Fire Department, they are more than welcome to. Some people in the audience thought there is a sign

of a red flag, everything that the audience has come up with concerning a question; Star Excavation has a response too.

Andy Boss: I live in Bent Tree. Mr. Flip Short was addressed, the last time we had a meeting at VFW you made a promise that you would do it right and there would be no use of explosives. I put my trust in you. Now you are breaking that promise. I want to know why?

Mr. Short: I simply relied on the gentleman and his experience of taking down this mine and he told me that we do not need blasting. There are ten other things that are available to us. So I believed him. We have lost money every month at this mine site. Now I know that blasting is the only way to bring the underground mine down safer and quicker. That is the only way it can be done. Otherwise the project will go away. If I would have known that back then, I would have told you that yes we plan on using explosives. You are correct that is exactly what I said that we would not be using explosives. I relied on other professionals when making the initial decision to not use explosives.

Andy Boss: I am going to call you out on this and I want you to drop this.

Mr. Short: I am not going to do that.

Andy Boss: Well I am asking you to sir.

Mr. Short: I know you are. I understand that.

Christine Bushyhead: I think we have done really well tonight by trying to keep this not personal. Subjective comments are being allowed to be made. We understand that this is personal, but we are trying to treat people with respect, by sharing information, and nothing beyond that.

Andy Boss: You are not being respectful because you are not keeping your word.

There was a question of what is the harm being of just letting the mine keep collapsing by not doing anything? It is just vacant land. The same danger there is now of people getting in there and the possibility of them getting hurt.

The meeting has been going on now for just about three hours, let's keep the meeting orderly and productive.

Every one of these houses that surrounds the mine site is someone's castle and you are breaking their hearts. You are making them feel terrible and there are a lot of people. People have a lot of investment in these houses; I just wish you would back off this blasting plan.

Has anyone contacted homeowner's insurance companies to see if they are going to raise their insurance rates? I will need to see a blasting plan and see if that will raise my insurance rates. If the rates are going to increase as a result of this blasting plan, the rate increase is on Star Excavation. Insurance agents will need to look at your plan and I need to find out if this proposal is going to raise my homeowner's insurance rate.

Do you have an air monitor over there? There was supposed to be an air monitor. I am getting a lot of dust at my house. This winter, with the wind blowing from the north, when the land was real dry, I am getting tons of dust and it is coming from right over there. I would like to know where that air monitor is, that was promised. There is no air monitor in place. Whenever you do put in a seismograph I would like to see it hooked up to the internet so we can watch it anytime we want to.

Member of the audience: So this is the seventy acres that Lee's Summit needs?

Christine Bushyhead: Are you asking about land use and what is developable and undeveloped land in Lee's Summit? On the city's web site there is an annual report they use to talk about developable land. It looks like we have acres and acres of undeveloped land. In fact when looking at the un-platted land and undeveloped land there is about five percent of the land that is in the city limits of Lee's Summit that is available for development. Everything else has either been platted or will eventually be built. Then there are two large tracts of land, one is 500-acres east of I-470 owned by the Church of Jesus Christ of Latter Day Saints and then when you go down south off of Scherer and Ward Roads there is another 2,500 acres, which is owned by the same institution. There are no plans to develop this land owned by the church as the land will be available for the Second Coming.

Star Excavation is asking for the ability to develop this land that is part of the permit application.

Ken Kerley: Is this meeting being recorded? Yes the lady from the newspaper had a recorder going and there is another recording by the department. Star Excavation is not recording this meeting. You are the blaster right? What is your company name? The company name is Lutrell Blasting.

My location is identified as six and seven on Figure 3. Because of my property I am in a different position than most of the people. There was a question about the road as that is the only ingress and egress to my property. Mr. Short responded that we are going through this step by step. Mr. Short does not have insurance on the road and no research has been done on that. Is there someone from the city who is supposed to be here? No there is not, but they are aware of this meeting. Larry Lehman, regarding the permit, you made a comment that you will either accept or not accept, right? Correct. Can you issue a permit with stipulations? There have been some permits that have stipulations in the past. Typically permits are not issued with stipulations.

I have a feeling that this blasting plan will happen. There has been discussion about the city and this project means a lot of tax dollars for the city. The city is the one we should be addressing. I actually hate to say it but I feel the blasting will make the mining process faster. I do want to say to Steve and Jason you guys have been respectful to me and I appreciate that.

Someone asked, have you been asked to be bought out? There have been no discussions as to that. Are you open to the blasting plan? Sure, but I am not committed to it. I have a fifty-foot mountain of dirt in my back yard. That did not hurt your property value? It is what it is guys. If

this was not Flip Short's investment there would be other people or other investors lined up right behind him. I look at the quarry every day.

Are there copies of the comment letters that have been sent in? Yes.

Alan Zomeiser: I am president of the original Bent Tree Bluffs subdivision. There was a request to turn back to a map showing the underground mine and neighboring properties. First of all, there was discussion of the hours of operation. Lee's Summit does have a noise ordinance that goes from what I believe is 10:00 p.m. and until 7:00 a.m. the next day. Star Excavation should have to confide to that code no matter what the hours are. We should not be hearing blasting during those hours or champagne popping, whatever it is. The videos that we saw on the explosions did not have sound and I think that makes it a very soft distortion of what the explosions are like. I think the sound created by the explosions will be a much more shocking experience for us. We did not get the impact of hearing what the detonations were like. Star Excavations did take Alan's e-mail address to send him the video.

I was involved with the oil industry where they were doing deep well fracturing which involves blasting at very deep depths to get the oil to come up. Environmental groups and Green Peace reported that the blasting is actually damaging the structure under the ground and can never be restored. In fact our foundation of rock underneath our houses took thousands of years to settle and these blasts that are going on will be affecting our foundations little by little. Just like if you drop a pebble in a pond you will see concentric circles going out from the wave of that pebble. That will be the same wave from when you do a blast the shock waves go out in every direction. The shock wave will travel though the ground, hard rock and some along the surface.

The rock foundation under the topsoil is the same over there as it is over here so when it hits, it is doing what they said which is two miles per second. That is the speed of the shockwave that will be going through our community. They are going to be doing that for two or three times a week for approximately 16-years. So this could equate to about sixteen hundred blasts. So if I took a hammer and hit it into concrete once it will not do much of anything or even after a few other hits. If I repeated this action for over a thousand times there would be a significant shock affect experience to that piece of concrete. What my concern is that these blasts will destroy the foundation under that area and this area over here which took thousands and thousands of years to get settled and now it is going to be fractured again which will never be restored in our lifetime again. That is an immediate concern.

The bigger thing to is in our profit oriented society people will buy a piece of land and do things to it that neighbors around may not necessarily be aware of and they might do some blasting and quarry work and the neighbors won't complain as there is nobody around to make aware. Back in time homebuilders built one neighborhood and then they left and this neighborhood was built and all these other houses and more houses were built up around them and now we are suggesting going back and doing blasting, with a blasting product that is almost brand new in a close built neighborhood community. There is no way you can put up a fence line around your property and guarantee that the damage to the foundation is not going to affect anybody outside that property. It absolutely cannot be done. The damage to the surrounding properties over here

as it is all connected by the same bedrock that will affect us by these 1,600 or two-thousand (2,000) blasts. That is the risk I see.

There is a similar abandoned underground mine in Kansas City, near Briar Cliffs. Rather than mining through the property, they pumped in a lot of flyash which was a way to fill the underground mine back in to stabilize the underground mine, now that community is a nice residential community with a nice shopping area and all that good stuff. Rather than mining out the material just to fill the hole back in. This property could be stabilized by filling the underground mine in. There is a real potential here to do that kind of activity. The last thing is that I have been following that water park story that happened across town involving a company. They did all the things that they thought they were supposed to do and one boy got killed and the owners are being sued. I have a concern that this is a project that will affect many more people. If one blast goes bad, if the foundation under your house shifts there could be a high amount of liabilities as the blasting approaches these residents.

The blasting will be critical to our daily operations at the site. I understand you have a business standpoint Mr. Short but the costs of the liabilities may outweigh profit.

Christine Bushyhead: One thing that has come up a couple of times. Let me clear up the comment about the champagne popper we thought those were some flashy words and then someone tried to equate that to the popping experience you get when opening a bottle of champagne. That was not what was trying to be portrayed. It is more like the handheld string that you pull and shoots out confetti type stuff. That is what we are talking about when referring to a champagne popper. It may be better to equate that to a shotgun shell in an attempt to describe the experience. You are emphasizing that but you also want to use high explosives. It is important that we all leave here with facts and not misinformation. You may like or not like the information.

Steven Clancy: The analogy of the rock formation is not accurate. We do care about the safety of our workers. Your analogy of hitting a hammer one time versus a thousand times is not accurate. That is exactly what we are trying to do. A shot will go off one time compared to hitting the rock with a hammer all day long which is sending continuous vibrations through that mine. We build a safety factor up to hit that pillar one time versus ten hours a day everyday continually. That is why we are proposing to shoot the pillars because the pillars have free space all the way around them. So when you hit the pillars the rock will just fall out into the free space. There is nothing around the pillars that will cause resistance. There is no rock or earthen materials to resist the rock from just falling into the free space.

So you are just blasting the pillars and not doing the floor? There are no plans to mine the floor of the underground quarry. Blasting the pillars will cause the roof to fall.

My understanding is that this was all zoned agriculture. What is the zoning on the site now? The site is still zoned as agriculture. So in the zoning of agriculture, blasting is allowed? The Special Use Permit is what allows the site to be developed and allows blasting and also land reclamation. The zoning is agriculture right now. A land use of agriculture allows the

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landowner to apply for a Special Use Permit for land reclamation mining and that is what Star Excavation did. The zoning is still the same.

So you currently have a permit that allows Star Excavation to use explosives. Star Excavation currently has a city and state permit to allow the mining and land reclamation activity to occur.

How many champagne poppers will there be on the pillars? Are the pillars a harder material than the rest of the mine that can be removed without blasting? For Star Excavation the blasting is as much as a safety issue as it is an efficiency issue. It is a matter of which type of operation use explosives or do not use explosives and we think it will also be safer to use explosives rather than have that hoe ramming type of activity for the next ten years. Are you going to only ask for this Autostem product? No. We are asking for a whole range of explosives ability. Flip Short did state a few years ago that this mine site would never use explosives which that information was provided by a professional who said that these other methods of rock breaking will work for you. Well we now have this new product Autostem and we do not know if it will work well in all situations. So we are not going through this process again. Star Excavation will use the safest most efficient way possible, but we are asking for use of a full range of explosives.

If we provide you with an e-mail will you give us a copy of the slide show presentation so I can share with others of what we learned tonight? Sure we can do that. Star Excavation will also provide a copy of the slide show to the *Lee's Summit Journal*.

Rod Gravitt: If this permit goes out allowing blasting, I could be standing in the mine on my property fifty feet away from the blasting area and when a blast goes off, how is that not going to hurt me? There has been conversation that started at about 4:00 p.m. on March 28, 2018. There has been no direct answer at the meeting how I could be standing fifty feet away, you do not know if that is going to hurt me? Again we have started the conversation.

There was discussion in the audience, we will communicate with you because you have a unique situation where you could be down in the mine, so we will develop a way to communicate. How will you protect me if you are setting off a charge fifty feet away from me with a permit that will allow you do that? Star Excavation is aware of the situation and it is Star Excavation's responsibility to address that concern. Will people get a letter, is that part of the conversation? Star Excavation is working with a variety of experts in the mining industry and other mines who have a similar situation to address this concern. There are two other mines about three-miles away doing the exact same thing we are doing all day, every day with full use of explosives, right next to highways. These other mines you reference does not have multiple people who have access to or own a portion of the underground mine. There is still a concern of conducting blasting operations when someone could be standing in the mine fifty-feet away. Star Excavation contends that is why we are taking time to think this through thoroughly. Before the permit is issued, you will have that concern addressed. There was a comment that you will need to put a lot of thought into that to prevent a lot of people being killed.

Christine Bushyhead: The letter from Drake Development that was written to the Land Reclamation Program Staff Director concerning this project was read in part. Thank you for the notice. I am currently working on a large scale mixed-use development for my property located

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at 1910 NW Lowenstein Drive, Lee's Summit, MO. I would like to understand how the mining project might affect my development. There is a list of about a dozen questions. I would like to schedule an informal meeting to further discuss my questions and the mining process. The letter is signed by Matt Pennington. Bill Brown representing Star Excavation has already reached out to Mr. Pennington. The city has signed off on all of that. I do not think Drake Development would continue with their plans if they felt there would be an impact to their plans.

You can get a blasting permit from the city with a preliminary development plan such as to put in sewer and water lines. Yes but those projects do not go on for fifteen to twenty years. You are correct and that is why Star Excavation has to go through this process.

This is a project that will affect people for the next twenty years. When does a motion come into play when there are homes that come into play and the homes get impacted by blasting for the next twenty-years? Where is the right and where is the wrong? These homes are where people live, it is their investment and their retirement. This is emotional and emotions come into play when this operation will continue to impact them for the next twenty-years. I understand that they blast at other mines. This is not going to stop in a short period of time; it will go on and on. Why is Star Excavation not making offer to buy people out? Flip we had a one-on-one meeting about four years ago and you mentioned that you will be buying these people out and you have not even made an offer. I have lived in Lee's Summit for the last 35-years and this breaks my heart. You do not even live on this property. Nobody wants this mining operation in their back yard. Listening to this meeting tonight you act like this is not a big deal, it is just a fact finding mission. I am not sure everything that was presented is facts. Where is that fine line? Where is the notion taken in thought that this is where people live, their retirement and why should we not be annoyed with it, just facts.

If you were proposing this out in the country we would not care. You all moved into our neighborhood and want to start blasting where we live. You came in with project next to us and you want us to be good neighbors?

End of Public Meeting.

Written Comments:

Will the blasting have a damaging impact on the land, air, water, or other aspects of the environment on or near my property; potential risks posed by quarrying and mine reclamation; effects of vibrations on surface structures; effects of quarrying on surface runoff; will quarry drainage collect in the tunnels below I-470 or flow into lower areas south of the highway; how quarrying will proceed, the types of drilling equipment required, the drilling patterns to be employed, the amount of explosives to be used per blast; property devaluation due to adjacent mining; will mining reclamation affect the high-end nature of my development?

I would like to have information about the notification regulations. I have grave concerns about blasting in our neighborhood. I am a community activist and have worked with people surrounding the Quality Redevelopment group in Knobtown, 350 Highway and Noland Road for years now. I have negotiated rock removal practices, with three neighborhoods and my

own. We were able to get approval from the KCMO City Council and Mayor for the Summit Crossing Apartments, an ordinance for protecting properties in both Wedgewood Pointe HOA and Walnut Woods HOA. I am also concerned that the meeting on the 28th of March is going to be at Phillip Shorts office. This is not a neutral place, what message are you sending to the public? Also there are about 1,000 property owners that are affected and want to be at the “Informal Meeting”, is his office big enough?

Honestly, it sure seems that MDNR is not neutral and not giving the public respect for protecting our homes, property and safety. I would appreciate having the rules of notification, what is the definition of First Tier?

We’ve had first-hand experience of the devastation and property damage this can and has done. And though there are promises to fix and/or repair any property damages, these always lack in quality and timely resolution. Often resolutions are never to the satisfaction of the impacted residents and the residents become victims of government and business imposing their will at the expense of residents in the name of progress. And the impact of property value dropping and the ability to even sale will be overwhelming.

I built my home in 1992 and became a Lee’s Summit, MO resident. One of the many reasons I chose my particular lot, was the promise – No building or mining would ever be permitted in parcel reference 51-830-03-38-00-0-00-000 due to the current permit disallowing any mining. This land is also not stable for building. Any type of mining and use of explosives would only contribute to the instability of the parcel and all adjacent parcels. It is not rationale to think any parcel of land can be disturbed and have no impact on adjacent parcels.

What was stated in 1992 still holds true today and the permit should not be revised to allow ANY mining or the use of explosives.

If the permit is allowed to move forward, I feel the safety, piece of mind, financial impact and property damage for me, my family and other residents of Summerfield Homes Association.

It should be noted that this Star Excavations – c/o Bushyhead, LLC – 315 SE Main Street – Lee’s Summit, MO 64063 sent letters to only a few of the Summerfield subdivision property owners. This appears to be an attempt to be less than forthcoming. All Summerfield subdivision property owners should have received the notification due to the longer-term impacts.

Again, my family and I are adamantly opposed to this permit moving forward. Please do NOT allow the permit to be revised. **STOP** this action immediately.

I am a consulting geologist who was hired in 2013 by the property owners adjacent to the Family Ranch mine reclamation project to provide engineering geology advice in their attempt to halt the then-proposed project. At the time, one of my primary concerns was that blasting to remove roof and pillar rock could result in destabilization of the mine roof under adjacent undermined properties.

My recollecting is that in response to the expressed concerns of the property owners Mr. Short committed not to blast, but rather to use hydraulic hammers to remove rock. I had strongly

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recommended monitoring anyway, since insufficient data existed to assess the potential effects of hammering on adjacent mine roof slabs. But, as far as I know, no seismic monitoring has occurred at the property during the past three years.

Recently, the property owners re-contacted me to express their concerns that blasting was already occurring. According to their reports, this happens in the very early hours, and is typically followed by voluminous production of crushed rock aggregate. I have no independent corroboration, but the pattern described is consistent with a blasting program. It is also interesting that prior to these occurrences aggregate production appeared to be to be much less.

Although a council member assured me that a blasting permit was issued, I do not recall any mention of such at either the council or public hearings. He further stated that no blasting is now occurring and that inspections intended to *identify* whether blasting is occurring have been performed by the city. He did not, however, provide any documentation. I am told that one of the affected property owners has requested such documentation under the Missouri Open Records statute.

Nothing has been done to monitor or assess the stability of mine roof under adjacent properties. Therefore, the geotechnical issues raised throughout the approval process, including at the final Land Use Commission hearing, at which I spoke (and which, I will note, was scheduled at short notice and as a result lacked the presence and input of the geotechnical engineer member from Missouri University of Science & Technology), remain.

Allowing this project to expand without requiring additional oversight is a disservice to the property owners. I urge you to require a new hearing on the application, and not to extend the permit without specifying additional monitoring requirements.

Our neighborhood is requesting an “informal” meeting with MDNR and Star Excavations, LLC, 801 NW Commerce Drive, Lee’s Summit, MO 64086. Star Excavations has applied to terminate their current permit #1105 to add blasting until the year 2034.

We are less than one mile from Star Excavations; we do not want blasting in our neighborhood. We have dealt with the threat of blasting before in 2013 and 2014 with Star Excavation. We are less than one mile away from another quarry using blasting in Knobtown. Our experience from Quality Redevelopment is very negative. We do not need to be in the middle of two competing quarries blasting causing negative effects with our properties, health, and safety. We are approximately 4,750 feet away from Star Excavations.

Only a few of our Summerfield homeowners on the North side of our Subdivision have received registered letters. This will impact all of the 100 Summerfield homeowners, and surrounding subdivisions. Summerfields Homes Association considers the original agreement with no blasting to be mandatory to keep our homeowners and homes safe.

The Board of Trustees and Elected Officials of the Bent Tree Bluffs Homeowners Association represent 327 homeowners in the Bent Tree Bluffs neighborhood of Lee’s Summit, Mo near the operations area of Star Excavation, LLC, 802 NW Commerce Drive, Lee’s Summit, Mo 64086.

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Their present operating permit does not allow blasting. They have requested a revision to their permit. The revision of their permit request would delete the permit conditions of “NO USE OF EXPLOSIVES”. We are concerned about possible damage to our residential structures, due to the proximity of where blasting would occur, if the existing permit is revised.

We are requesting a public hearing before the revision is considered and would respectfully request notification of meeting times and locations if hearings were held.

The Trustees and Directors of Silvertooth Fahey Farms HOA are requesting an informal meeting (along with Unity Ridge HOA and WWHOA, and Cedar Valley HOA, and Valley Gardens HOA) with MDNR and Star Excavations, LLC 801 NW Commerce Drive in Lee’s Summit, MO 6408; with regards to Star Excavations, LLC request to add blasting to their current permit until the year 2034.

Our neighborhood is less than 1 mile away from the mining site. We sometimes hear work from the mine late at night between the hours of 10PM and 7AM. It interrupts our ability to sleep and in turn effects how well we are rested in our daytime work and travels. We find the sound effects of the mines (blasting and other work) to be negative for all 85 homes in the valley. There are also concerns to our homes values, property security, and most importantly from Fracking and blasting. We would like to address these matters as the area is far more developed than ever before and many souls are affected by the renewing of the Fracking and or blasting permits (and related activities).

Attention to these matters is much appreciated.

My family lives on Bannister Road, right below the Century Concrete Plant, we are extremely concerned with Star Excavations LLC, choice to start blasting. We believe this may have a negative impact within our neighborhood, surrounding communities and our house which is 2,600’ away from the quarry. We support the request being made by Unity Ridge Property Owners Association, Walnut Woods HOA, Silvertooth Fahey Farms and our neighbors on Valley Garden for an informal meeting to receive additional information regarding the impact blasting may have on our properties.

As a representative of the residents residing on Valley Garden / Noland Road, I speak on behalf of the property owners and we are extremely concerned with the blasting, both past and present. We believe this may have a negative impact within our neighborhood and those surrounding communities. We support the request being made by Unity Ridge Property Owners Association for an informal meeting to receive additional information regarding the impact blasting may have on our properties.

The Board of Directors for the Walnut Woods Homeowner’s Association (WWHOA) is in support of the unifying concerns being shared through the Unity Ridge Property Owners Association, regarding current and past blasting issues that may affect our neighbors and the surrounding neighborhoods within our outlying community. Equally our homeowners have already voiced concerns regarding noise levels, health and safety impacts, as well as any potential effects that may occur to our home foundations, insurance costs and property values.

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Therefore, we concur with the request being made by the Unity Ridge Property Owners Association for an informal meeting to receive additional information regarding these concerns.

I am requesting an informal meeting in opposition of the revised permit that Star Excavations, LLC has applied for. The revision would delete the permit conditions of “No Use of Explosives”.

I am a landowner or tenant that is directly connected to the mine without any barriers. Using explosives would directly affect my health, welfare and safety. Thank you for your consideration.

I am writing today regarding a revised permit that Star Excavations, LLC, has applied for. The revision would delete the permit conditions of “No Use of Explosives”.

As a resident of Lee’s Summit I am obviously concerned about the affects this would have on my family’s health, welfare and safety. Clearly, whether controlled or not this blasting is dangerous to all involved including the residents of Lee’s Summit with a population of 96,000.

Additionally, this blasting would take place along a heavily traveled highway running through Lee’s Summit MO. This highway is not only traveled by Lee’s Summit Mo residents but residents of neighboring cities, such as Blue Springs, Greenwood, Raytown, and Independence to name a few. By this letter I am requesting a meeting with the Department of Natural Resources to discuss the dangers involved with this project.

I am requesting an informal meeting in opposition of the revised permit that Star Excavations, LLC has applied for to delete the permit conditions of “No Use of Explosives”.

I am a homeowner directly Northeast approximately 1 mile where the prevailing wind brings so much more dust since the mine has opened that we have experienced more effect upon not only our allergies (to dust), but also leading to 3 times more usage of furnace filters to keep our environment livable. I am afraid that the use of Explosives would be even more damaging to me and my family’s health. Please consider the neighbors of this mining operation.

As a business owner who does much of my work in houses, churches, and schools in Lee’s Summit, I would like to express my grave concern about the revised permit that Star Excavations has applied for. Living near and having first-hand knowledge of the impact of such an operation, I would like my opinion to be considered at any meeting concerning this matter.

I am a first tier property owner. The same mine is under my front yard. Star Excavation has applied for a blasting permit for the entire 70 acres that Family Ranch owns. My property borders that same 70 acres. The northern most property owners of the Summerfield Subdivision received certified letters. This property is across I-470. Kenny Gerdes was sent a letter dated 2/27/2018 and was received on 3/5/2018 which is after the public notices. The Gerdes property is further away from the mining operation than my property. I have been advised that the reason I did not receive a letter was that my property is not adjacent to the mine plan area. Again, Star Excavations is requesting a blasting permit for all of the mine that they own which is for the entire 70 acres. The fact that his portion of the mine directly touches my portion does require

that I should have received a letter as well. I would like the proper procedure of the rules set forth by the Department of Natural Resources to be followed.

Missouri Department of Natural Resources: The 2007 standards of the Missouri Blasting Safety Act are put in place to protect people and structures from ground vibrations and air overpressure related to detonations of explosives. Blasters now have to go through an extensive training period before being certified by the State of Missouri and also have to go through refresher courses every three years to keep the certificate valid. Blasting records are required to be maintained for a period of at least three (3) years. Missouri blasting limits are taken from a study done in 1980 for the US Bureau of Mines. Even though the US Bureau of Mines study is over 37-years old, other studies have tried to invalidate the 1980 study without success.

There are seismograph monitoring requirements in the Missouri Blasting Safety Act if the blast is of a scaled distance as noted in the regulations. The seismograph must be set at the nearest uncontrolled structure to the blast and this is based on scaled distance. There is an equation to help determine the scaled distance of a blast as compared to the distance of the nearest uncontrolled structure. A seismograph is required by regulation at 11 CSR 40-7.010(9)(B) and reads:

“In any instance when the calculated scaled distance value is fifty-five (55) or less, any person using explosives shall use at least one (1) seismograph calibrated to the manufacturer’s standard for use to record the ground vibration and acoustic levels that occur from the use of such explosives or explosive materials.”

Scaled distance is counterintuitive; meaning the smaller the scaled distance number the more intense the blast will be.

Structures do not retain vibration memory, meaning that as long as a vibration from a detonation is below the threshold of blasting related damage, the next vibration the structure experiences is not added to the last one. As long as each detonation is below the threshold of blasting related damage, then there is no blasting related damage to that structure.

There is a hierarchy of blasting related damages. More fragile construction material such as glass, plaster, and drywall will break before concrete. The levels of vibration necessary to cause damage to a concrete foundation are so high that the structure would sustain unreasonable damage in the portions above ground long before the foundation became an issue. If a concrete structure is below ground it is protected all the more from blasting related damage.

Typical chemicals used as blasting agents are ammonia nitrate and fuel oil ignited by a high explosive primer. Detonations of explosives are regulated by the Missouri Department of Public Safety, Office of the State Fire Marshall. To find out more about the Office of the State Fire Marshall please visit their web site at:

<http://dfs.dps.mo.gov/programs/investigations/blasting.php>

The Missouri Department of Natural Resources, Land Reclamation Program does not regulate blasting at limestone quarries.

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Star Excavation Blasting Plan is included with this Attachment 1.

Closing

The director of the Land Reclamation Program has six (6) weeks from the date of this public meeting to investigate the application and make a decision to either remove or not remove the condition of “No Use of Explosives” as requested on the permit revision application. Public comments will be considered when making this decision. Any interested party whose health, safety, or livelihood will be unduly impaired by the decision will have an opportunity to appeal the decision to the Administration Hearing Commission (AHC). All appeals must be filed by petition within thirty (30) days after the director’s decision as provided by 621.250.3 RSMo. All appeals must be filed by petition and sent to this address: Administration Hearing Commission, PO Box 1557, Jefferson City, MO 65102.



Blasting Plan

INTRODUCTION

This Blasting Plan describes the blasting operations that will occur during operation of the Star Excavation, LLC Land Reclamation Project ("Project"). The purpose of this Blasting Plan is to provide Project-specific information concerning blasting procedures, including the safe use of explosives, and the measures that will be implemented to prevent potential adverse impacts to public health, safety, and the environment from the use of explosives during blasting activities. The Blasting Contractor shall comply with all conditions within this plan as well as all specifications detailed in the Missouri Blasting Safety Act (the "Act"), and 11 Code of State Regulations 40-7.010, and related federal and local laws.

DEFINITIONS

The following definitions, which are also set forth in 11 CSR 40-7.010, shall be used in interpreting this blasting plan:

Blaster:	A person qualified to be in charge of and responsible for the loading and firing of an explosive or explosive material.
Blast:	Detonation of explosives.
Blasting:	The use of explosives in mining or construction.
Blast Site:	The area where explosives are handled during loading of a bore hole, including fifty feet (50') in all directions from the perimeter formed by loaded holes. A minimum of thirty feet (30') may replace the fifty (50)-foot requirement if the perimeter of loaded holes is marked and separated from non-blast site areas by a barrier. The fifty (50)-foot or thirty (30)-foot distance requirements, as applicable, shall apply in all directions along the full depth of the bore hole.
Bore Hole:	A hole made with a drill, auger, or other tool in which explosives are placed in preparation for detonation.
Scaled distance:	A value determined by dividing the linear distance, in feet, from the blast to a specified location, by the square root of the maximum weight of explosives, in pounds, to be detonated in any eight (8) millisecond period.
Seismograph:	An instrument that measures ground vibrations and acoustic effects.
Uncontrolled Structure:	Any dwelling, public building, school, church, commercial building, or institutional building that is not owned or leased by the person using explosives, or otherwise under the direct contractual responsibility of the person using explosives.



OVERVIEW OF BLASTING OPERATIONS

Locations

Blasting will be limited to land located within the Missouri Department of Natural Resources, Land Reclamation Program, permitted (Permit No. 1105) and bonded mine plan area, wherein an abandoned underground mine is being removed, and where traditional excavation and earth moving equipment are not adequate to meet Project specifications. Blasting may consist of either implosion or explosion.

Procedures

Star Excavation, LLC will contract with, or employ a qualified, experienced, and licensed blasting contractor that will perform blasting using current and professionally accepted methods, products, and procedures to maximize safety during blasting operations. Blasting procedures will be carried out according to and in compliance with applicable laws and will be closely monitored by Star Excavation, LLC personnel.

Blasting procedures will be conducted according to the following four basic principles:

- The blast will produce fractured rock of appropriate dimensions.
- The blast will prevent/minimize production of flyrock and air blast hazards.
- The blast will minimize peak particle velocities.
- The blast will be scaled/sized to minimize overblasting that can result in excessive excavation and handling of excavated material, and increased drilling, excavation, and backfill costs.

Personal Safety, Protection of Property, and Notification

Blast Site Personnel Safety

All personnel responsible for handling explosives and present in and around blasting sites will be fully informed and trained in applicable safety precautions/procedures. Star Excavation, LLC will ensure Project personnel's safety by requiring the Blasting Contractor to provide safety training to its personnel, provide experienced supervisors, use safety equipment, practice good communication, and adhere to notification procedures (including pre-blast notification). If an electrical storm approaches during blasting preparation, the Blasting Contractor will follow the appropriate regulatory procedures and delay or reschedule the blast, as necessary.

The Blasting Contractor will use a signaling system to alert workers of an impending blast. The signaling system will be comprised of the following components:

- **Warning Signal:** 5 minutes prior to the blasting signal, an approximately 15-second-long, audible signal will be sounded at the blast site.

- **Blasting Signal:** 1 minute prior to a blast, a series of three (3) short, approximately 15 seconds each, audible signals will be sounded at the blast site.
- **All-Clear Signal:** Following inspection of the blast area, a prolonged, audible signal will be sounded at the blast site.

The Blasting Contractor will post signs explaining the signaling protocol at construction staging areas and other appropriate locations. All active blast sites will have clear warning signs located at key access points to ensure the public does not accidentally enter a blast site of the Project. Following detonation, the blasting area will be inspected for undetonated or misfired explosives. The blasting area will also be inspected for hazards such as falling rock and rock slides. Once the area has been inspected and these issues have been addressed, the "all-clear" signal will sound, and personnel will be able to safely re-enter the blast zone.

Additional safety precautions will be developed to address site-specific conditions at the time of the blast. Special attention will be given to preventing potential hazards in the blasting area resulting from flying rock, destabilized walls, and structures.

Adjacent Property

The Blasting Contractor shall notify the owner or occupant of any residence or business located within a scaled distance of fifty-five (55) from the Blast Site twenty-four (24) hours prior to the day blasting will occur. The notification in the form, attached, shall be delivered in person to any such owner or occupant, or by posting prominently on the premises or the property of the owner or occupant of the residence or business.

For an owner or occupant of any residence or business located along the portion of Quarry Park Road and Clifford Drive, adjacent to the Project, and located outside the required scaled distance of fifty-five (55) from the Blast Site notice area, a courtesy notification in the form and manner described above shall be made.

The Blasting Contractor shall offer to conduct pre-blast surveys of each uncontrolled structure located within a scaled distance of 35 from the Blast Site, as required by the Act, when authorized by the property owner to conduct such survey. A request for a pre-blast survey by any property owner outside the requirements of the Act shall be evaluated and may or may not be granted.

Pre-blasting inspections will be conducted by the Blasting Contractor or its representative and will include written, photographic or video documentation of the physical conditions of each structure and facility. The owner may be asked to sign and date any written log that would accompany the photo or video record.

Seismograph

The Star Excavation, City Special Use Permit for Rock Reclamation, requires the following process in the event of blasting at the Project. Star Excavation shall take seismographic measurements during blasting activities on the north and south sides of I-470 and the results shall be made available to the public. Star Excavation shall coordinate with the City to determine appropriate locations for the placement of seismographic measuring equipment south of I-470.

The Blasting Contractor shall assure that the following requirements are also met.

- The Blasting Contractor shall calculate the scaled distance to the nearest uncontrolled structure. If more than one (1) uncontrolled structure is the same approximate distance from the blast site, then the person using explosives may select one (1) representative structure for calculation of scaled distance.
- In any instance when the calculated scaled distance value is fifty-five (55) or less, the Blasting Contractor shall use at least one (1) seismograph calibrated to the manufacturer's standard for use to record the ground vibration and acoustic levels that occur from the use of such explosives or explosive materials.
- When measuring ground vibration and acoustic levels, the seismograph shall be placed in the proximity of the nearest uncontrolled structure or, at the option of the person using explosives, closer to the blast site. If more than one (1) uncontrolled structure is the same approximate distance from the blast site, then the person using explosives may select one (1) representative structure for placement of the seismograph.
- Star Excavation may also direct the Blasting Contractor to voluntarily use a seismograph calibrated to the manufacturer's standard for use for all blasting, regardless of the scaled distance.

Fire Safety – No Storage of Explosives

All blasting work will be conducted in compliance with the Project Fire Prevention Plan and all applicable fire prevention laws and regulations. The explosive material to be used for the Project will not be stored at the Project site.

REGULATORY OVERVIEW

The Mine Safety Administration (MSHA) and numerous state and local jurisdictions regulate the land reclamation mining operations at Star Excavation's Project. The Federal Bureau of Alcohol, Tobacco, and Firearms (ATF) regulates explosives storage and commerce. The Missouri Blasting Safety Act enforced by the Missouri Fire Marshall, and local laws govern how the use of explosives are to be conducted. Star Excavation, LLC and its sub-contractors will comply with the most stringent provisions of applicable federal, state and local laws that pertain to the use of explosives.



Notification of Blasting Operations

Date of Notification:
Firm Conducting Blasting Operations:
Address:
City, State & Zip:

Blasting Operations being conducted for:
Blasting Location:
Address:
City, State & Zip:
Blasting Dates:
Blasting Supervisor:

Received By

Date

Owner or Occupant of any residence or business

Posted By

Date

Location Posted
